

# PSYCHOSOMATIC MEDICINE

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# PSYCHOSOMATIC MEDICINE

## EXPERIMENTAL AND CLINICAL STUDIES

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**PURPOSE:** The aim of PSYCHOSOMATIC MEDICINE is to encourage and bring together studies which make a contribution to the understanding of the organism as a whole, in somatic and psychic aspects. The field to which PSYCHOSOMATIC MEDICINE is devoted is rapidly assuming importance in medicine and the related sciences. The traditional body-mind dichotomy, while now less present in medical thinking, is not eradicated from language. Expressions which, during the last decade, have gained increasing prominence in medical literature, such as the organismal theory, the patient as a whole, psychosomatic problems, psychophysiology, psychobiology, were all attempts to avoid the artificial division of the psychological from the physiological. It is now realized that the major problem is not to find the term or label to indicate the essential unity of the organism, or to engage in philosophical discussions about monism, dualism or parallelism, but to develop practical methods for dealing clinically and scientifically with the organism as a whole. Although the organism is a unit, fundamentally different methods have been developed for the observation and management of the psychic and somatic functions. This fact is the real reason for the use of the term psychosomatic, not any difference of opinion about the essential nature of the organism.

The ability to deal with the psychic aspect of an illness, or with the patient as a person, has been called the art of medicine in contradistinction to the science of medicine. But this association of ideas has tended to preserve a dichotomy. Most physicians would agree that there is an art and a science for dealing with physiology as well as psychology. The fact that studies relating to them tend to be isolated from each other in our scientific literature constitutes the reason for this publication.

Psychosomatic medicine is not a medical specialty, parallel with internal medicine or psychiatry, but an approach which might be applicable to almost any medical, psychological or physiological problem. The consequence is that nearly anything the Journal publishes might be suitable for one or another of the specialized scientific journals, yet its suitability for this Journal depends not only on its scientific excellence but also upon its pertinence to some specific issue involving observations or experiments on both personal reactions and organic reactions.

**SCOPE:** The investigations published in this Journal deal primarily with phenomena observed concurrently from somatic and psychic aspects rather than from either one alone. The scope therefore includes appropriate experimental studies of animal and human behavior, and well-controlled clinical studies of children and adults. Pertinent examples are: investigations of experimental neuroses, of frustration, of physiological changes accompanying emotion, of vegetative and hormonal disturbances, and of psychiatric aspects of general and specific emotional problems.

The Editors are not disposed to accept manuscripts which present purely psychiatric material without observations and data relative to physiological events, or material relating to any of the specialties of internal medicine which is not accompanied by sufficiently adequate observations to throw light on the psychosomatic mechanisms involved.

The Journal includes articles containing reviews of literature in the field of the medical and research specialties.

Reviews of articles and books relating to this field also are published.

**MONOGRAPHS:** To meet the increasing need for publication of experimental data resulting from longer studies, monographs independent of the Journal itself are published as occasion requires.

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## PSYCHOLOGICAL INVALIDISM IN THYROIDECTOMIZED PATIENTS \*

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In cooperation with MAYO H. SOLEY, M.D.

The results of a personality study of patients, who had been subjected to a sub-total thyroidectomy, are presented in this paper.† Special emphasis was paid to the evaluation of social and psychological factors and their influence upon the speed and degree of recovery following surgical treatment.

Review of the literature reveals that hyperthyroidism is not a frequent or common disease. The incidence of hyperthyroidism in World War I is reported as being 2.8 per 1000 (25). The mortality in England is found to be 2.2 per 100,000, while in the United States the rate is 2.8 (8). In England an increasing trend of hyperthyroidism has been reported, while at the same time the United States shows a decrease since 1926.

The sex-linked incidence and the predilection age of hyperthyroidism suggests close association of thyroid disorders with ovarian and pituitary functions. According to Dunlap and Moersch (6), the predilection age is 41 to 50 in females, and 51 to 60 in males, while only 1 out of 13 cases falls under the age of 16 (4). For each male 6 to 8 females are affected with hyperthyroidism. However, there is a tendency of the disease to shift toward maleness (5, 8). Concomitant with endocrine factors, we find between the ages of 40 and 60 a great many psychological problems taxing the adaptive behavior of the individual. These are: impairment of physical appearance, approaching age and death, with isolation and separation from children, friends and family. This coincidence of psychological problems with physiological changes must be kept in mind in the evaluation of the clinical symptomatology.

The geographical distribution of thyroid disorders reveals close association between thyroid function and climate, altitude above sea level and composition of soil and water. In the United States there is greater incidence of hyperthyroidism in the north-

western states as opposed to the eastern regions. The highest mortality rates are reported in Ohio, Indiana and Wisconsin (14, 25). The mortality seems to be greater in summer because of the decreased heat tolerance. Difference in geographical distribution obviously implies that differences exist in the personality and culture of thyroid patients, since people who have been raised in mountainous regions are known to differ from those who were raised in the plains.

Congenital factors also seem to contribute toward thyroid disorders. Aschner (1) reports a familial incidence of hyperthyroidism inasmuch as 36.7 per cent of relatives of goiter patients seem to be affected with goiter, as compared with only 11.3 per cent in control groups. Keith (10) reports the rareness of hyperthyroidism in the Dutch East Indies, and he also points out that the Javanese and Malaysians have smaller thyroids than whites. However, it is impossible to decide whether these factors are genetically determined or conditioned by the environment. Draper (5), who found both slender and stocky types among exophthalmic goiter patients, emphasizes the tendency of both men and women patients to have in their body-build components of the opposite sex. High gynecic or andric ratings are known (26) to be associated with psychological problems, maladjustment and conflicts.

The social class membership in turn also seems to be related to thyroid disorder. The death rate is reported higher in well-to-do families than in the poor sections of the population.

The problem of psychological shock upon the exacerbation of thyroid disorder has fascinated many authors. Bauer (2), Maranon (12) and others hold the view that psychological shock can precipitate hyperthyroidism, while another opinion points out that pre-existing personality disorders may be precipitated into clinical activity by thyroid involvement (21, 23, 24).

While Benedek (3) discusses the psychodynamics of two case histories in detail, Lewis (11) advances a more general theory regarding the personality of exophthalmic goiter patients. He stresses the point that all the symptoms of hyperthyroidism, chemical, physical and psychological, are exact duplicates of

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† The work described in this paper was done under a contract recommended by the Committee on Medical Research between the Office of Scientific Research and Development, and the University of California Medical School. This is part of a study on rehabilitation being conducted at The Langley Porter Clinic, San Francisco.



fear and anxiety states found in animals. He concludes that exophthalmic goiter is an exaggerated form of an anxiety neurosis representing fear at a symbolic level. It is a disease, he states, that is "a severe, often structuralized neurosis depending upon an early powerful bond of father attachment dominated by an unconscious incest mechanism, and with strong autoerotic cravings."

The literature leaves unanswered the problems of personality structure in relation to onset of symptoms, recovery from hyperthyroid states, relation of premorbid adjustment to anxiety symptoms, and the value of psychotherapy in rehabilitation from thyroid disease. The present paper attempts to answer some of these questions.

#### CASE MATERIAL AND METHODS

The case material was derived from the thyroid clinic of the University of California Hospital. The 43 patients studied were selected in such a manner as to constitute a fair representation of the several thousand patients followed in the clinic. Thus, 35 females and 8 males, 32 toxic and 11 non-toxic goiters, 13 patients over 30, 21 patients above 40, 23 patients with speedy recovery, 20 patients with delayed recovery were included. The clinical diagnoses were verified by the pathological report of the specimen removed at operation. Thus it was ascertained that no anxiety states were mistaken for thyroid disease.

The psychiatric examination consisted of focussed interviews with emphasis upon selected topics. One interview was devoted to the gathering of material related to the childhood, a second interview was concerned with adjustment in adulthood, a third interview was concerned with the circumstances surrounding the onset of the disease and the medical symptoms; a fourth interview was devoted to the attitudes regarding physicians and medicine, and a fifth interview was concerned with social and cultural factors.

In addition to these interviews, each individual was given the short form of the Wechsler-Bellevue Test, and an abbreviated form of the Minnesota Multiphasic Personality Inventory (9). The patient's gullibility concerning medical matters was assessed by means of a specially prepared questionnaire. Details of the methods have been described elsewhere (18).

Evaluation of the data of this study was based upon comparison of the characteristics of the thyroid population with the statistical norms of the State of California and the United States as far as available. This procedure enabled the investigators

to isolate those features which thyroid patients had in common with the population at large. Comparison of these data with information obtained in a previous study of cases with chronic disease and psychological invalidism (17) helped in the assessment of socio-psychological features which are common to sick people in general. In order to develop criteria suitable for prediction of recovery from thyroidectomy, the cases were separated into two groups labeled normal and delayed recovery. Thus from a psychological standpoint the material of 43 cases was composed as follows:

#### *Normal Post-Operative Development: Normal Recovery*

##### *Patients with:*

- a. No physical, mental or nervous symptoms at time of examination..... 14 cases
- b. Return to pre-thyroid health condition after operation, patients having either pre-existing disease or maladjustment, or both..... 6 cases
- c. Persistent physical but no nervous symptoms after operation; patients are adjusted to disease and feel subjectively better..... 3 cases

#### *Abnormal Post-Operative Development: Psychological Invalidism, Delayed Recovery*

- Nervous and emotional symptoms, with or without physical symptoms. Patient subjectively worse than before onset of thyroid disease..... 20 cases

The above classifications were arrived at by assessing the case at the time of the examination. Absence of symptoms and complaints and ability to pursue the daily duties and occupation were taken as a criterion of mental health. The varying periods elapsed since the operation do not seem to influence our data since the patients with normal recovery show signs of progress and improvement immediately following the operation, while patients with delayed recovery either remain stationary or get worse.

#### GENERAL CHARACTERISTICS OF THE PATIENTS

In subsequent paragraphs the patients studied have been described in terms of objective findings as determined by their past history.

##### *Age and Sex*

There were 35 females and 8 males. The mean age of the total group was 41, ranging from 20 to 63 years.

##### *Marital History*

Both male and female patients were characterized by an unusually high rate of married people: only



2 women were single and both were under 30 years of age. In the normal population about one-fourth of the women are single. Similar to the findings in the chronic disease group, the rate of divorced, separated or widowed women was high: 28 per cent. Forty-five per cent of the female thyroid patients married before the age of 20. Apparently, marriage was frequently chosen to terminate an unbearable home situation.

### *Nativity and Parentage*

The incidence of foreign born white (14 per cent) and native born patients of foreign parentage (35 per cent) was higher than for either the United States population or other control groups. Culture change, therefore, can be expected to be an important factor in the evaluation of unusual stress and strain in the life of these patients.

### *Occupational Status*

Three-fourths of the females were housewives, and one-fourth were employed as domestic or white collar workers.

### *Educational History*

The patients had an above average education. Seventy per cent of our patients went to high school or college, as compared to 58 per cent of the population of California. This fact is borne out further by the above average I. Q. of these patients, the mean of which was 110.

### *Religion*

Fourteen per cent of the females reported a change in church affiliation, and 17 per cent showed unusual interest in Christian Science. Otherwise the findings conformed to the norms for the State of California.

### *Interests*

The interests of the female thyroidectomized patients were characterized by lack of differentiation and by adherence to the conventional recreational activities, such as radio, movies, card-playing, needlework, cooking, and baking (54 per cent). This finding contrasts with the behavior of neurotic patients and individuals with chronic disease (17), who were characterized by higher grade interests, and specialized hobbies requiring considerable skill.

### *Medical History*

Thyroidectomized patients had a poor health record. The number of hospitalizations, as well as

the frequency of major and minor operations, reached the same significantly high figure as found for patients with chronic disease and psychological invalidism (17); the number of accidents, fractures and the incidence of venereal disease was considerably less.

### *Summary*

In summary we can describe the patients with thyroidectomy as follows:

#### *Features in Common with the Population at Large*

- Average duration of marriage.
- Average number of childless individuals.
- Average distribution of occupations.
- Avoidance of accidents, fractures and venereal disease.
- Avoidance of conduct disorders.

#### *Features Similar to the Control Group of Chronic Disease with Psychological Invalidism*

- High divorce or separation rate.
- Above average intelligence.
- High frequency of hospitalizations and operations.
- Marriage at an early age.

#### *Features Characteristic of the Group*

- Age around 40.
- Few bachelors or spinsters.
- Above average incidence of patients with foreign parentage.
- Low grade interests.
- Frequent change of religion.

*Difference Between Thyroid Patients with Speedy Recovery as Contrasted with Those with Delayed Recovery* shows that the latter group has a higher divorce rate and a greater number of hospitalizations.

### PSYCHOLOGICAL TEST RESULTS

#### *Intelligence*

The mean I. Q. for the thyroid patients was 110, which is at the upper limit of "average" intelligence; the range of I. Q.'s was from 82 to 137. The personality profile obtained by averaging the scores of all thyroid patients was contrasted with the profile of chronic disease patients (figure 1). It is obvious that the thyroid group scores less abnormally than the chronic disease group, but still has higher scores than the average population for which the mean score on all scales is 50.

Inasmuch as group profiles tend to obscure individual differences, the records were sorted into six profile "types" (see Table I). The profile Type 1 was termed "Undifferentiated Normal" and was the one

most frequently seen. Over one-third of the records fell into this group, which is characterized by scores of less than 65 and absence of any definite patterning of scores. Type 2, labeled "Covert Neurotic," included profiles with scores generally below 70, but the scores on Hypochondriasis, Hysteria and Depression were notably higher than those on the other scales. An exaggeration of this pattern is Type 3, the "Outpatient Syndrome," in which the neurotic scores stand out as a pattern and exceed 70. The

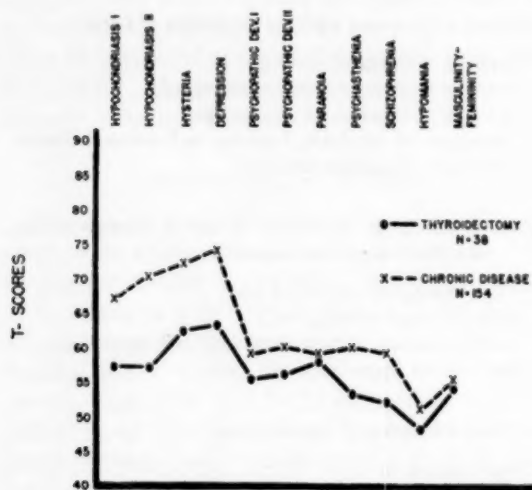


Fig. 1. Comparison of patients with thyroidectomy and patients with chronic disease. Minnesota multiphasic.

TABLE I

MULTIPHASIC PROFILE TYPES OBSERVED IN THYROIDECTOMIZED PATIENTS

Type	Female N = 31	Male N = 7
1 Undifferentiated normal	13	1
2 Covert neurotic	7	—
3 OPD syndrome	6	4
4 Depressive	2	1
5 Psychopathic	2	—
6 Mixed psychopathology	1	1

female patients tended to score highest on the Hysteria scale; items of the scale contributing to this score were statements referring to lassitude and malaise, to feelings of functioning below par physically and mentally, and items having to do with physical symptom formation. In contrast, the male patients scored higher on the Depression scale. Records described as Depressive (Type 4), Psychopathic (Type 5) or Mixed Psychopathology (Type 6) were fairly rare, indicating that severe psychopathology in terms of behavior disorders and psychoses were not represented in this group of patients.

#### SYMPTOMATOLOGY

In 42 per cent of the cases physical symptoms were found to be present at the time of the examination following thyroidectomy. The following symptoms were observed:

Perspiration, tremor, palpitation, tachycardia, increased appetite, muscular weakness, apathy, exophthalmus, feelings of warmth, loss of weight, dry skin, loss of hair, drowsiness, feelings of cold, change in voice, dysphagia, headache, dyspnea, coughing, and choking.

Nervous and psychiatric symptoms were found in 65 per cent of the cases. These consisted of complaints of general nervousness, irritability, insomnia, apprehension, being on edge, easily startled, frightened and angered, crying easily, and flying off the handle. Symptoms of anxiety, such as fear of impending danger, sighing, hyperventilation, muscular tension, choking sensations, and nightmares, occurred in 34 per cent of the cases. Severe personality symptoms of pre-psychotic character, such as ideas of reference, paranoid ideas, hallucinations, disorientation, depression, and delusions, were present in only one case.

The duration of the preoperative symptoms varied considerably. Thirty-three per cent of the patients had preoperative symptoms of less than one year's duration, 51 per cent had symptoms from one to nine years and 16 per cent had symptoms lasting longer than ten years. We thus see that chronic as well as acute diseases were included in this group. The time lapse from the date of operation also varied considerably. Four to six months from the time of the operation had elapsed in 35 per cent of our cases; 48 per cent fell into a period of one to four years after the operations, and 17 per cent had had their operation more than five years ago.

#### SITUATIONAL FACTORS AT ONSET OR RECURRENCE OF SYMPTOMS

Inability to adjust appears, and break-down frequently occurs, when a change in the environment forces the individual to adjust. Of course, changes of the intimate human or family environment seem to involve the deepest emotional strata of the personality. For purposes of this study the definition of "at the time of the onset of the symptoms" was extended to include events occurring within one year of that date. Thus, the addition of a person to the family circle by means of birth, marriage or the acquisition of intimate boy or girl friends occurred in one-seventh of the cases. The reverse, namely the elimination of a person by means

of divorce, forced separation or death, occurred in one-third of the cases. In addition, half of the men were irritated by change of working conditions, involving the wider social environment. The frequency of these environmental changes was about the same as that of the patients with chronic disease and psychological invalidism (17). It would follow that thyroid patients do not possess the necessary social techniques to adjust to changes of the environment. This may be due either to the fact that thyroid disease impairs the adaptive behavior of the individual, or that the individual who is maladjusted is more susceptible to thyroid disease. But regardless of the conclusion made, the fact was established that onset of thyroid symptoms is frequently associated with maladjustment.

#### GENETIC CHILDHOOD EVENTS

##### *General Family Setting in Childhood*

In Table II we find an analysis of the childhood circumstances. The high percentage of broken homes involving a large number of cases is striking. Broken homes were characterized either by death

found in these patients. It is of interest that the rate of broken homes in this group approximates that given by Glueck and Glueck (7) for delinquent women.

An attempt was made to rate each patient's history with regard to type of discipline used by the parents and the general atmosphere which prevailed in the home. On the whole, mothers were punitive: thus, over one-third of the mothers were rated as being controlling, extremely puritanical, prohibitive, and as punishing by shaming. These methods of education were of course likely to create feelings of shame, fear or guilt in the child. The atmosphere was sober, in the absence of warmth, seduction or neglect. The fathers, in contrast, were more care-free and warm, and rewarded with manifestations of affection and praise to a greater degree. However, one-eighth of the fathers were chronic alcoholics, and one-fourth were reported as being extremely changeable. Physical punishment was hardly ever reported, but over one-third of the fathers were rated as being controlling, prohibitive, using scolding as their principal method of discipline. Relatively speaking, the fathers tended to be more affectionate, and the mothers to be more authoritarian individuals.

TABLE II

#### CHILDHOOD CIRCUMSTANCES

	Thyroidectomized patients		Chronic disease,	
	Females N = 35	Males N = 8	Total N = 43	Total N = 187
	Number of cases		Frequency in per cent	
Only child	1	2	7	6
Adopted child	1	1	5	4
Oldest child	11	2	29	19
Youngest child	7	3	24	33
Divorce or separation of parents	6	3	21	9
One or two step-parents	7	2	21	16
Death of father before 12	4	2	14	19
Death of mother before 12	6	2	19	13
One or 2 parents 40 years older	1	—	3	6
Without mother before 12	8	3	26	12
Without father before 12	8	4	28	23
Raised in foster home	6	6	28	10

##### *Relation to Siblings*

The thyroid patients came from relatively large families. They had an average of 3.8 siblings and, including themselves, they came from families with 4.8 children. These figures were considerably higher than those found for duodenal ulcer patients. There was an equal number of brothers and sisters, and the sequence of male and female children did not show any unusual features.

Our patients seemed to have been the older or oldest children in the family. There were 29 per cent oldest and 22 per cent second oldest in our series. Therefore, it is quite natural that our patients had more younger (76 persons) than older siblings (62 persons). In interpretation of these figures one arrives at the conclusion that these patients had to take premature responsibilities, which statement is supported by considering the unusual number of broken homes. When one or two parents die, separate, divorce, or are otherwise physically or mentally incapacitated, the responsibility for themselves, as well as for the future of the younger siblings, frequently rests with the older or oldest children. This in turn deprived these patients of the pleasures of play and social intercourse during adolescence. Contrary to the psychology of the younger and youngest born children, who are over-protected

of father or mother, divorce, separation or alcoholism of the parents, being raised in a foster home or being raised by a step-parent. This early disturbance of family life, associated with loss of affection and discontinuity in the contact with the parents, seems to be responsible for some of the insecurity



and tend to become dependent (18), the psychology of the older and oldest born children is characterized by overconscientiousness and inability to enjoy life.

#### Relation to Parents

In a previous study (18) the usefulness of grouping biographical material in terms of the parental functions of authority, ideal model and source of affection has been demonstrated. A schematic representation of this interrelation between child and parent has been given for the female thyroid patients in figure 2. By authority is meant that func-

secondary source. The diagrams in figure 2 represent the conditions as reconstructed by the memories of the patient, reflecting the situation from the third or fourth year of life on.

#### Pattern I, Normal Girl:

This pattern represents the ideal norm for the girl in the North American culture in which the primary source of authority and the ideal model are found in the mother, while the father offers more affection. This pattern is arrived at through a gradual development. In early infancy, care and affection were given almost exclusively by the mother. In the course of the second year the father gradually

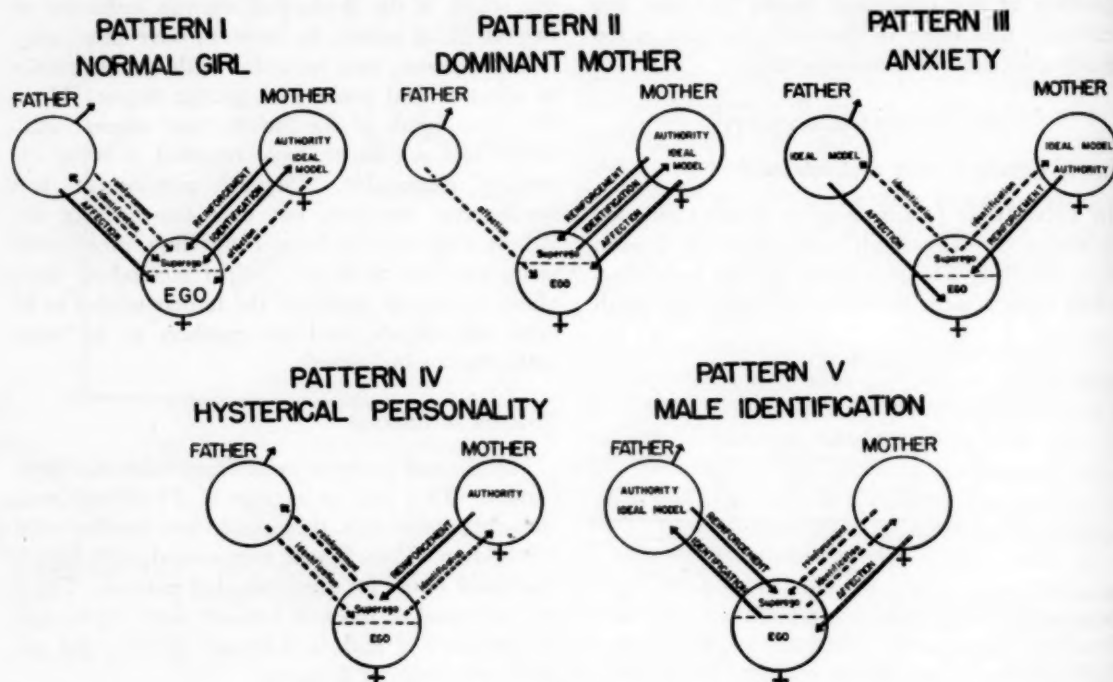


FIG. 2.

tion of the parent which reinforces through reward and punishment. It may be positive or negative in character, direct or abstract, but always implies power on the part of the parent. We have used ideal model to refer to the parent or parents with whom the child identifies, and from whom he learns by means of imitation. This is obviously determined by the amount of desirable features of the parents as well as by the difference of prestige between parent and child. The term affection designates the parents' manifestations of physical or abstract love and the amount of security and warmth given, irrespective of the child's behavior. In figure 2, arrows have been used to indicate the degree of association between child and parents. Solid arrows designate the primary source, broken arrows the

emerged, and an affectionate relation was established between the father and the girl. The mother then became the primary source of authority and discipline for daily behavior, and the child learned to master this authority through identification with the mother. Also, the girl learned the feminine techniques, especially with regard to the management of men, thus making the man the primary love object in her life. Later, when the father started to assert himself, especially with regard to the social behavior of the girl, she began to identify with him to a minor degree. In adult life the patients included in this pattern showed only minor maladjustment. For the most part they were domestic, home-loving women, without personal ambitions. Some were excessively clean, others were not, but all tended to

have friends or to gather in clubs or associations. One-third of our cases showed this pattern I, normal recovery exceeding in frequency cases with psychological invalidism.

#### Pattern II, *Dominant Mother*:

This pattern is characterized by the absence of the father and the concentration of the parent-child relation around mother. The fathers were either physically absent or remained in the background by reasons of occupation, age or personality. Reinforcements and ideals, therefore, derived solely from the mother. Elsewhere (18) we have presented the concept that whenever the source of authority is combined with the source of affection, there exists a tendency for these youngsters to be dependent, using submission as a technique to assure the flow of love and affection. In adult life their primary interests circled around the home and family, and the marriages were pleasant and contact was close. It might surprise the reader to find that these dependent women were well adjusted. But in our primarily patriarchal social structure, dependence of women is culturally speaking a "normal" feature. In contrast, independence is expected from the males, and the dependent men appear to be either maladjusted or they had to strive for independence with such a vigor that this counteraction rendered them ill. Only one-eighth of the cases fell into this group.

#### Pattern III, *Anxiety Type*:

This pattern is characterized by a punitive mother and a loving but weak father. The child attempted to manage the authoritarian mother by means of identification. Lack of love and affection on the part of the mother, however, repulsed the child and ambivalence toward the mother was the result. In turn, these patients continued to search during adult life for acceptable ideals and persons. In spite of the readiness and ease with which these individuals could identify, they soon tired of their newly acquired ideals, and the old ambivalence broke through again. In daily life these individuals were characterized by social anxiety when meeting people. In continuation of the pattern with mother, they expected disapproval, and in order to avoid this anxiety their social technique was directed at getting close to people, or actually "under their skin." With men the women tended to be competitive and frigid. They married at a young age, usually before 20, in order to get away from home. Subsequent divorces substantiated the pattern illustrated above. Longing for love characterized their later life. One-fifth of our cases showed such a pattern, normal and delayed recovery from thyroidectomy being represented to equal degrees.

#### Pattern IV, *Hysterical Personality*:

This pattern is characterized by rejection of the child by both parents. Because of the punitive behavior of father and mother, the youngster was unable to take over any of their ideals. They felt left out and cheated, and as a reaction they sought attachment to anything that will give warmth, be it animal or person. In adulthood they frequently perpetuated their pattern of rejection by being sick or acting as a martyr. They married early, had many operations, few children, many abortions. All patients except one were frigid, and they tended to be promiscuous. This group of patients were close to being psychopathic personalities. One-third of our cases belonged in this group, cases with delayed recovery well exceeding in number patients with speedy recovery.

#### Pattern V, *Male Identification*:

Here the father is the source of authority and therefore the child identifies primarily with him. The girl wanted to become like the father and be a boy, loving her ineffectual mother though refusing to become like her. Only 3 cases fell into this group.

### ADULT PERSONALITY

#### *Description of Adult Personality of the Female Patients*

The personality of our patients has been described in terms of need variables as suggested by Murray (15). For the definition of the terms, the reader is referred to the original articles (15, 16). Each individual was rated with regard to the 33 needs that were considered when all of the clinical material of the patients was available. A three point scale was used, indicating whether a need was outstandingly present, uncharacteristic or absent. Overt behavior or conduct was rated separately and contrasted with the individual's covert behavior, including such features as day-dreams, dreams, wishes, goals, and ideals.

Consistently present and first in the rank order were found needs such as conformance, order, affiliation, narcissism, and dependence; or in other words, needs which characterize the lower middle class female. In contrast, when the phantasy life of the patients was considered, additional and consistently present needs were found, such as recognition and activity on the one hand, succorance, dependence, blame-avoidance, and "strict superego" on the other hand. The fundamental conflict of these patients is thus clearly revealed: secretly they wanted success but their strict conscience and their need for dependence and guidance seemed to prevent them from achieving this goal. Overtly, they

conform to the ideals given by society and social class.

Consistently absent and last in the rank order were needs such as aggression, change, sex, abasement, inferiority avoidance, and autonomy. Expressed in other words, we can state that these patients were neither pushing for power nor unusually submissive. Two needs were found to have a bimodal distribution. They were exhibitionism and dominance. Such a finding obviously warrants the conclusion that we dealt with two kinds of people; the hysterical personalities with their need for exhibitionism and dominance, and other thyroid patients who were exactly the opposite.

### *Character Conflicts*

Two types of conflicts were observed in our patients. Difficulties of the individual with his environment have been discussed under the heading of situational difficulties. Conflicts within the individual himself have been listed under six headings; dependence—non-dependence, aggression—non-aggression, self-love—object-love, masculinity—femininity, sadism—masochism, activity—passivity. If a person suffers from such character conflicts, it is revealed by the extreme ambivalence and inability in choosing between incompatible goals, leading ultimately to symptom formation. The rating of our patients was based on a clinical evaluation of past and present behavior, symptoms, defense mechanisms, and the indirectly revealed longings in dreams, day-dreams and phantasies. Exact definitions of the conflicts have been given in previous publications (17, 18).

In the female thyroid patients, the conflict of self-love versus object-love ranked first, with dependence second and aggression third. These findings become more meaningful when considered in conjunction with the childhood patterns discussed above. In pattern I, the Normal Girl, only one patient was rated as having character conflicts leading to symptom formation. The rank order of the three main conflicts for this group read: aggression, activity and dependence. This sequence portrays the female difficulties in our culture, in which the girls are expected to be unaggressive and submissive, while at the same time they are expected to work and to emancipate themselves.

In pattern II, the Dominant Mother, no outstanding character conflicts leading to symptom formation could be found. In tabulating the importance of the various problems the order reads: dependence, activity, self-love. In other words, our dependent females had no maladjustment because they

conformed to the demands of our culture. None the less, the preoccupation of whether to remain dependent or to emancipate themselves could be noted.

In pattern III, the Anxiety Type, the rank order was self-love, aggression and dependence. In this group, however, the problems had become conflicts which the individuals were unable to solve. Their difficulties centered around the inability to establish good relations with other people because of their self-love and aggressiveness.

In pattern IV, the Hysterical Personality, self-love was the most outstanding conflict. When rank ordered, dependence, masculinity and masochism came next. The difference between this type and the anxiety type is to be seen in the absence of anxiety and the lack of conflict in the field of aggression. The hysterical personality was trained from childhood to subordinate herself and to receive affection through suffering.

In pattern V, the Masculine Girl, activity was found to be the most outstanding conflict, aggression ranking second and self-love third.

### *Self-description*

Observation of overt behavior and inference as to the conflicts of our patients were complemented by a number of questions designed to elicit responses revealing the patient's opinion of herself. The questions used were: "What kind of person are you?" "What are your assets and liabilities?" "How are you different from other people?" Four types of characteristic responses were observed; the majority of the answers could be grouped under the four headings listed below. They are in order of importance:

1. Interest and activities are centered around the home with concern over being "good to the family and a good mother," "a good cook," "a good housekeeper," "keeping things clean and neat," etc.
2. Home activities diffuse slightly to include neighboring groups, with "doing good for people," "being generous and thoughtful of others," such as a neighbor who is ill, "mixing socially with a small group of friends," as characteristic responses. However, associated with this social activity is the feeling of being "shy or backward" or "ill at ease in meeting people."
3. Considerable irritability is implied in expressions such as "quicktempered, impatient, overcritical, quarrelsome, nervous, dissatisfied," etc.
4. References to being "ordinary or average," and not "different from other people" are noticeable.

The answers to these questions demonstrated a



rather restricted field of activity and interest with principal orientation around home life. Emphasis on conformity and obligations, as well as lack of references to imply ease in social relations and deep enjoyment of life, are noticeable.

#### SOCIAL AND CULTURAL FACTORS

For rating social class membership the method described elsewhere was used (17). We were struck by the fact that thyroid patients derived primarily from the lower middle class. Only 10 per cent of the cases fell into the upper lower, and 10 per cent into the upper middle class. These findings confirm the previously advanced conclusion (17) that psychosomatic diseases have a predilection for the middle class. Studying the social mobility upwards and downwards, and comparing the patient's status to the social status of the parents, we found that social climbers and strainers (54 per cent) prevailed among the thyroid patients. We defined climbers as persons who, compared to the status of their parents, had succeeded in increasing their social prestige (37 per cent). We referred to people as strainers (17 per cent) when they merely wanted to improve but actually did not succeed in doing so.

Culture change from ethnic to American, from one social class to another, from one region of America to another one, and from civilian to military life taxes the adaptive behavior of the individual. New things have to be learned, old ones have to be abandoned, and rearrangement of the person's system of values becomes necessary. The large incidence of climbers and strainers on the one hand, and the high frequency of either foreign born or native born persons of foreign parentage would indicate that culture change plays an important part in the personality of these thyroidectomized patients.

#### PATIENT-DOCTOR RELATIONSHIP

A special interview was devoted to the assessment of the patient's attitude toward physicians and medicine in general. Evaluation of the doctor as a reality figure was separated from the investigation of what doctors should be. Demands made upon the physician were given special attention.

A recent public opinion survey in California concerning doctors (20) furnished the basic information for assessment of the attitude of the population toward the medical profession. For example, 65 per cent of the interviewed persons had no complaints against doctors. The most important criticisms mentioned were overcharging, failure to tell the truth, either withholding or exaggerating facts, and, to a

lesser degree, remarks as to personal disinterest, unnecessary treatment and operations, and keeping the patients waiting. Responses to the question, "If you were a medical doctor what would you do to assure yourself the good will of your patients?" brought out the importance of being honest and frank with the patient; while good medical service and treatment, sympathy, kindness, and friendliness were of secondary importance.

The thyroid patients differ considerably from the picture given by this survey. Only 30 per cent of our patients had no criticisms, and complaints about unnecessary operations and malpractice were much more frequent. They were sensitive to "roughness" or being "shrugged off" or to inconsiderate treatment; while overcharging seemed to be less relevant. Complaints about the failure of doctors to tell the truth were as frequent as in the normal population.

The question regarding the "best thing" about doctors was sought to evaluate overestimation; while the item concerning the "worst thing" was intended to investigate resentful and hostile attitudes. Sixty-three per cent of the thyroid patients mentioned the fact that doctors "helped" patients, which aspect was considered the best quality. Next in importance were features such as a doctor "placing his patients before himself" and "doing wonderful work," and having a "high standard of ethics." All these factors stressed the exalted position of the doctor (15 per cent).

In answer to the question, "What do you expect from a doctor when you consult him?" the thyroid patients mentioned the desire to be "told what's wrong" (11 per cent); and if the doctor did not know himself, to be sent elsewhere (7 per cent).

The two questions: "What kind of people are doctors?" and "What kind of people should doctors be?" were intended to reveal discrepancies between the real and the wished for relation to doctors. Three clusters of responses were observed: (1) Answers expressing the need for affection, attention, being loved, being nurtured, receiving encouragement, and being the focus of interest were placed under the heading of *Nurturance*. (2) Answers referring to intelligence, knowledge and the skill of a medical man were listed under *Authority*. (3) Answers describing a physician as a humanitarian, who is self-sacrificing with an idealized personality and a high moral character, were considered under *Ideal Personality*.

Responses describing the physician as he is in terms of traits fell most frequently under the heading of *Ideal Personality*; reference to Medical Au-

thority came second and Nurturance third. On a conscious level, therefore, thyroid patients tended to idealize physicians. In contrast, when "wished for" traits in doctors were evaluated, the patients wanted doctors to be more nurturant than they were in reality. It follows that the doctor ideal of these patients is different from that of the general population inasmuch as these patients stressed nurturant features, while the general population wanted primarily a frank, medical authority.

In relating social mobility to opinions about doctors it became evident that strainers emphasized nurturant qualities, while climbers and static individuals preferred traits of Ideal Personality and Authority. This choice coincided with the prevailing social techniques of these patients. Climbers, who wished to become authority themselves, tended to identify with medical authority. Strainers who did not improve their social status, but who had an ardent desire for increase in prestige, expected people to give them the things they were seeking. Static individuals simply accepted physicians as men of knowledge.

In relating personality profiles to opinions about doctors, patients whose profiles were described as Undifferentiated Normal wished doctors to be an authority in a medical sense. This attitude would correspond to the reactions of the normal population. Those with the Outpatient Syndrome tended to describe doctors in idealized terms but wished them to be more nurturant. This attitude reflects the pathological need for affection which apparently is reflected in high scores of the Minnesota Multiphasic Personality Inventory. Differences between patients with speedy and delayed recovery from thyroidectomy revealed interesting differences. Patients who recovered normally showed more tendency to wish authority in a physician. In contrast, patients whose recovery was delayed stressed either nurturant or ideal personality features.

In evaluating these various findings, one is struck by the fact that thyroid patients differ from the norm as well as from other disease groups. Ideal personality, ethics and conduct of doctors were the foremost concern of thyroid patients, while ulcer cases, with their need for dependence and guidance, expected nurturance and support from the doctor. The thyroid patients with their predominance of hysterical personalities and anxiety types were seeking persons with whom they could identify. In both ulcer and thyroid groups the patients forced the doctors into roles which had little to do with medicine, but which suited the social techniques and the character structure of the patients. Wish

for authority in doctors seemed to represent the average and normal behavior; wish for nurturance the abnormal or neurotic behavior.

### Medical Attitude Scales

An inventory on medical information and attitude was given to 26 patients. It included 3 scales designed to evaluate, first, the patient's acceptance of gullibilities and superstitions in health matters; second, his awareness of psychological factors; third, his actual medical information. The method has been described in detail elsewhere (18).

The scale termed "Medical Gullibility" included 60 items referring to old notions and beliefs about medical practices which a critical person would reject. In the "Psychological Awareness" scale an attempt was made to evaluate the patient's consciousness of psychological factors in illness and in

TABLE III  
INTERRELATIONS OF MEDICAL ATTITUDE SCALES  
Coefficients of correlations and probable errors of the coefficients

	Medical gullibility	Psychological awareness	Medical information	Intelligence	Age
Medical gullibility . . . . .	—	-.58	-.47	-.72	+.02
Psychological awareness . . . . .	±.13	—	±.16	±.10	±.20
Medical information . . . . .			—	+.71	-.23
Intelligence . . . . .				—	±.19
Age . . . . .					—
				+.59	-.15
				±.13	±.20

individual development. It consisted of 30 items. The "Medical Information" scale included 40 factual items designed to assess the patient's medical knowledge. The patient was asked to sort the 130 items, which were typed on separated cards as "true" or "false"; if he did not know the answer, he was asked to guess.

Table III presents the correlations between the 3 scales, and age and intelligence, and the intercorrelations between the scales themselves. It is apparent that age is not a factor affecting the score on any of the scales. I. Q., however, is correlated positively with both the Medical Information and Psychological Awareness scales, and negatively with the Gullibility scale.

We observed that patients who had a normal recovery from thyroidectomy tended to score slightly less gullible than those whose recovery was delayed; this difference, however, falls somewhat short of statistical significance, and since the patients with normal recovery score higher in I. Q. this difference

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is diminished slightly. When the factor of social class membership is considered, we note that while members of the upper lower class score less intelligent than those in the lower middle class, there is little difference in the score on Gullibility in the two groups, suggesting that for the same I. Q. level lower middle class persons are more gullible. Patients classified as falling into the Anxiety Type (Childhood Pattern III) score slightly more gullible than patients classified as Normal (Childhood Pattern I); the difference in I. Q. between these two groups being minimal.

One can conclude, therefore, that gullibility in thyroid patients is a function of intelligence, lower middle class ideology and childhood constellation.

#### PREDICTION OF RECOVERY FROM THYROIDECTOMY

Patients with normal recovery tend to have a Minnesota Multiphasic profile of type II (undifferentiated normal) (figure 3). Patients with de-

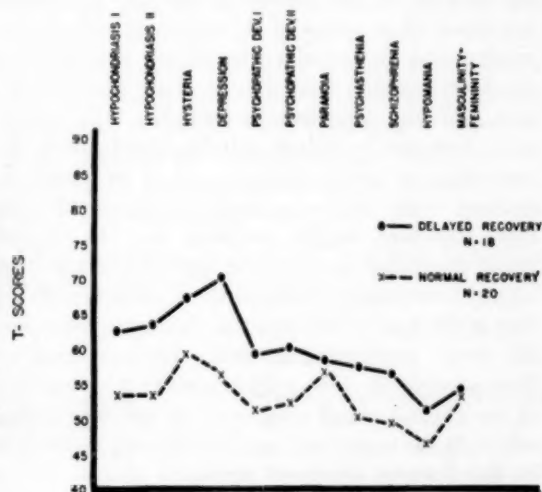


FIG. 3. Normal and delayed recovery from thyroidectomy. Minnesota multiphasic.

layed recovery from thyroidectomy have abnormal profiles, characterized by higher scores on the neurotic scales, on the Psychopathic Deviate and Psychasthenia scales. This dichotomy is statistically significant (Chi square = 5.98;  $P < .02$ ).

Patients with normal recovery from thyroidectomy are also more intelligent. The mean I. Q. for the patients with delayed recovery was 104.6; while that for those who recovered normally was 114.8. This difference is significant at the .05 level ( $t = 2.19$ ), which means that by chance we would expect such a difference to occur only five times out of one hundred.

#### INTERPRETATION OF PSYCHOLOGICAL INVALIDISM FOLLOWING THYROIDECTOMY

This series of patients differed in several respects from the norms of the population at large. Predilection of thyroid disease for middle-aged women constitutes the first deviation, which obviously is related to endocrine functions and its implied psychological problems. In addition, however, there are other selective factors at work. The childhood of both male and female patients was characterized by insecurity and broken homes, which feature was reinforced by the fact that thyroidectomized patients tended to be the older or first born children in the family. The broken home thus burdened these youngsters or adolescents with premature responsibility for themselves and for their younger siblings. Following divorce or separation, the children usually remained with the mother. In all cases the relationship to the parents, if living in the same household, was characterized by domination of mother and by lack of warmth. Here obviously lie the seeds for many of the difficulties encountered by these patients in later life.

In adulthood the group of thyroid patients was characterized by a high divorce rate, an above average rate of hospitalization and operations, few interests outside the home, few spinsters or bachelors, and absence of conduct disorders. The high frequency of broken homes in thyroidectomized patients is similar to the rate found in delinquent women. Our patients, however, conform with cultural demands, and their deviations in behavior occur within the limitations which are allowed by society. One of these permissible aberrations is found in divorce, and its frequency can be considered a subtle sign of emotional instability, especially in otherwise conforming persons. In searching for further and objective evidence of neurotic tendencies in thyroidectomized patients, one is struck by the similarity of test results on the Minnesota Multiphasic Personality Inventory between these and mildly psychoneurotic patients. The abnormality is less severe than in patients with other chronic diseases or ulcers, for example, but the high scores cannot be considered as falling into the normal range.

Once the personality deviations of thyroid patients as a whole have been established, the nature of this abnormality may be of interest. Considering first the past history of our female patients, five different constellations could be distinguished. About one-third of the cases fell into a pattern which approximated the ideal norm for the girl in the North American culture. The patients were well adjusted



and their childhood history revealed a satisfactory relation to father and mother. A second type, comprising one-eighth of the cases, had a dominant mother; subsequent dependency did not lead to maladjustment because our cultural demands do not require a woman to be independent. A third type, characterized by a punitive mother and a weak father, developed social anxiety in adult life, especially when meeting people. These women were characterized by a competitive character, dissatisfaction and a need to please. About one-third of our cases showed this pattern. The most severe abnormality was found in the fourth type, the hysterical personality. In their childhood these patients had parents who were punitive and who did not give any love or affection. About one-third of our cases belonged in this group, and it was striking that most of these patients showed delayed recovery from thyroidectomy. An additional one-twelfth of our female cases fell into a pattern which was characterized by masculine ideals and rejection of feminine ways of living.

The need of the hysterical personality and the anxiety type for close contact and identification with other human beings was brought out by the relation to the physician. In interviews concerned solely with investigation of dynamic attitudes towards doctors and medicine, these patients tended to describe physicians in terms of an idealized and ethical personality with a moral character. Medical competence, authority and technical knowledge were considerably less emphasized and the desire for nurturant features was little in evidence. We thus see that the social technique adopted in childhood again influenced the behavior in adulthood and the relation to physicians.

Our series of male thyroid patients was too small to draw statistically valid conclusions. However, among the few cases studied there was a predominance of patients with feminine identification. The mother seemed to have been the dominant parental figure, being the source of both affection and authority. The patients themselves were passive individuals who depended a great deal upon authority, and superficially showed a great need for recognition, success and conformance. The problems of these dependent individuals with dominant mothers were discussed in detail in a previous study (18).

Analysis of childhood constellations enabled the examiner to assess the social techniques which the patient developed for the management of parents and siblings, representing the foundation for deviant approaches in adult interpersonal relations.

Deviant social techniques brought about by abnormal childhood constellations reveal themselves as deficient when the patient is forced to change his environment. While living in his customary surroundings a patient's social techniques might suffice, but when culture change occurs adaptive behavior is taxed to the utmost, and under this pressure faulty techniques will eventually lead to a breakdown in the adjustment of the patient. Among the thyroid patients there was a remarkable number of cases which were in a state of transition either from ethnic to American, or half ethnic (foreign born parents) to American, or from one region of the United States to another. Their social techniques might have proven successful in their own surroundings, but in a new environment they apparently failed. We thus see that either childhood constellation or culture change can bring about the same results characterized by difficulties in interpersonal relations.

At this point the medical man might ask about the relation of the thyroid gland and personality functions. The group of thyroidectomized patients studied was characterized by people coming from the lower middle class, having little phantasy life and adhering to conformist attitudes. The women were worn out by a slow, grinding conflict with the environment, which they seemed to be unable to manage with their insufficient social techniques. One, therefore, might postulate that the thyroid gland was called upon by the organism to speed up mental functioning. Some of these patients reported that at the time of the onset of their symptoms they felt better until toxic or other features rendered them severely ill. One might consider the possibility of the thyroid gland compensating for deficiencies, which in the behavioral field manifested themselves by the features discussed above.

Although our series was too small to make statistically valid conclusions, it seems striking that two-thirds of the patients with a normal childhood pattern recovered without complications, while over three-fourths of the patients with hysterical personality fall into the category of delayed recovery. In searching for an explanation for such a differential behavior during recovery, one has to fall back again upon the social techniques of the patients. The ambivalence, for instance, shown by hysterical personalities in their relation to their parents, in adulthood usually results in a pattern which consists of a permanent seeking for reassurance from outside sources because of lack of self-respect. If they do not get this support, these patients believe themselves to be abandoned and rejected. When

disease occurs it is only natural for them to feel that recovery is not destined for them. Such an attitude of course influences bodily mechanisms. Anxiety and anger bring about vascular and endocrine imbalance which in turn influences the improper functioning and already traumatized thyroid gland. The self-love of these patients induced them to cherish and cultivate symptoms which were brought about by the physical disease. Postoperatively, therefore, a clinical picture developed which consisted of a mixture between a psychoneurotic symptomatology and convalescent syndrome.

In summary, one can state that patients who are afflicted with thyroid disease certainly are not entirely normal as far as sociopsychological aspects are concerned. The group, however, divides into two distinct entities: the normal, or almost normal girl, and the hysterical or anxiety type. While surgical procedures are tolerated exceedingly well by the normal girls, delayed recovery is almost a probability in anxiety types and hysterical characters. In men, the problem is similar, however, instead of hysterical personalities we deal with dependent individuals. In preparation for surgery, psychiatric interviews might be helpful in spotting personality deviations of the anxiety, hysterical or dependent type. Therapeutic interviews before and after operation might improve the chances of recovery of patients with personality disorders.

Note: Appendix A: Summary of Sociopsychological Aspects of Patients with Thyroidectomy, follows on page 90.

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## APPENDIX A

SUMMARY OF SOCIOPSYCHOLOGICAL ASPECTS OF PATIENTS WITH THYROIDECTOMY  
(TOXIC AND NON-TOXIC GOITER)

Topic		Source												
<b>A. Medical Statistics</b>														
Morbidity .....	Incidence of hyperthyroidism 2.78 per 1000 in U. S. Army, World War I.	Wilensky, 1943.												
Mortality .....	Hyperthyroidism 2.2 per 100,000 in England. Hyperthyroidism 2.8 per 100,000 in United States.	Halliday, 1945. U. S. Census, 1940.												
Trend and Periodicity.	Hyperthyroidism trend increasing for males and females in England; in the United States it has been decreasing since 1926 (based on mortality rates).	Halliday, 1945.												
Age Incidence .....	In hyperthyroidism, one out of 13 cases is under 16 years. Predilection age: 41-50 in females, 51-60 in males.	Bram, 1944. Dunlap and Moersch, 1935.												
Sex Ratio .....	Hyperthyroidism: 6-8 females per one male. Tendency to shift toward maleness.	Halliday, 1945. Draper, 1945.												
<b>B. Geographical Factors</b>														
Climate, Season .....	Hyperthyroidism; mortality greater during summer because of decreased tolerance for heat.	Wilensky, 1943.												
Geographical, Rural and Urban Residence.	Hyperthyroidism greater in northwest than in eastern United States. Highest mortality in Ohio, Indiana, Wisconsin.	Wilensky, 1943. Metropolitan Life Insurance Co., 1942.												
<b>C. Congenital Factors</b>														
Genetics and Familial Incidence.	Hyperthyroidism: 36.7 per cent of relatives of goiter patients affected as compared to 11.3 per cent in control group.	Aschner, 1936.												
Body Build .....	Hyperthyroidism:													
	<table> <tr> <td>Somatotype</td><td>Male</td><td>Female</td></tr> <tr> <td>Round softness .....</td><td>3½</td><td>4</td></tr> <tr> <td>Muscularity, solidity .....</td><td>4</td><td>3</td></tr> <tr> <td>Linearity, delicacy .....</td><td>3</td><td>3</td></tr> </table>	Somatotype	Male	Female	Round softness .....	3½	4	Muscularity, solidity .....	4	3	Linearity, delicacy .....	3	3	Draper, 1945.
Somatotype	Male	Female												
Round softness .....	3½	4												
Muscularity, solidity .....	4	3												
Linearity, delicacy .....	3	3												
	Two types: stocky and slender. Males rate high in gynec emphasis; females high in andric emphasis.													
<b>D. Developmental Factors</b>														
Relation to Parents...	Goiter patients fall into several distinctly different childhood patterns: 30 per cent had a normal family constellation, 50 per cent had either one or two punitive parents, and the remainder distributed into other different patterns.	Ruesch, 1947.												
Relation to Siblings..	Goiter patients tend to be the older born or oldest children. Premature responsibility for siblings.	Ruesch, 1947.												
Background and Education of Patients.	Unusually high frequency of broken homes found in about half the female and three-fourths of the male cases. Education above average.	Ruesch, 1947.												
<b>E. Social and Cultural Factors</b>														
Culture Membership and Acculturation.	Forty-nine per cent of the cases were either foreign born or had foreign born parents. Culture change was therefore an important source of stress and strain.	Ruesch, 1947.												
Social Class Membership and Social Mobility.	Death rate of hyperthyroidism greatest for well-to-do families; lowest among the poorer classes. Preponderance of social strainers and climbers (54 per cent).	Halliday, 1945. Ruesch, 1947.												
Race and Nationality.	Hyperthyroidism rare in Dutch East Indies: Japanese and Malaysians have smaller thyroids than whites.	Keyth, 1928.												
<b>F. Adult Personality</b>														
Occupation and Work Record	Mostly housewives. Emphasis on neatness and cleanliness of houses.	Ruesch, 1947.												
Recreation, Interests, Attitudes.	Lack of differentiation. Conventional, home-bound recreation	Ruesch, 1947.												
Characteristic Needs and Behavior Patterns.	Conformist attitude is outstanding. In the phantasy life of these patients the need for recognition and for dependence played a major role.	Ruesch, 1947.												
Characteristic Conflicts and Defense Mechanisms.	Self-love and inability to express anger were the outstanding character problems, overconformance to accepted ideals the outstanding defense.	Ruesch, 1947.												



Topic		Source
Personality Structure.	Thyroidectomy patients have either a normal personality (about one-third) or they are dependent people with an hysterical character and anxiety.	Ruesch, 1947.
Social Relations . . . . .	Center around family, neighborhood or small clubs and associations. Superficially good social relations; however, underneath there seems to be a lack of contact.	Ruesch, 1947.
<i>G. Personality and Disease</i>		
Health Record, Diseases, Operations, and Accidents.	High frequency of hospitalizations and operations. Avoidance of accidents and fractures.	Ruesch, 1947.
Precipitating and Situational Factors.	Psychological shock is said to precipitate hyperthyroidism. In about half the cases, necessity to adjust to environmental changes were found at the time of the onset of the disease.	Bauer, 1945. Maranon, 1921. Ruesch, 1947.
Personality Features Predisposing to Disease.	Culture change, social straining, conformance impose stress upon these individuals, who, because of their childhood pattern, were poorly equipped in terms of social techniques to face environmental changes.	Ruesch, 1947.
Psychological Implications of Disease and Treatment.	Scar around neck, exophthalmus sometimes disfiguring. Toxic features, at first possibly beneficial, bring about hyperirritability and strained interpersonal relations.	Ruesch, 1947.
Doctor-Patient Relationship.	Some of the covertly dependent patients enjoy being in treatment. It satisfies their dependency without their needing to acknowledge it.	Ruesch, 1947.
Bodily Pathways and Psychosomatic Mechanisms.	Preexisting personality disorders may be precipitated into clinical activity by thyroid involvement. Psychosomatic mechanism is obscure.	Wholey, 1931. Thompson, 1932. Weiss, 1923.

#### CONFERENCE OF THE COMMITTEE ON PSYCHOLOGICAL METHODS AND CONCEPTS

The Committee on Psychological Methods and Concepts held a conference on November 1, 1946, in New York City, which was attended by 25 guests. The topic of the conference was the use of hypnotics in psychosomatic disorders, on prisoners, and in psychotherapeutic procedures.

The chairman, Dr. Bela Mittelman, pointed out that the problem of hypnotics in relation to psychological phenomena has three aspects:

- (a) the chemical effect—which is to be considered more or less uniform;
- (b) the psychological situation in which the hypnotic is administered to the patient; and
- (c) the problem of formulating the phenomena on the basis of a conceptual framework.

Accordingly, the program had three topics representing a variety of psychological situations in which the hypnotics were used. The presentation of the following papers stimulated considerable group discussion:

The Use of Intravenous Sodium Amytal in Psychosomatic Treatment.

Herbert S. Ripley, Stewart Wolf.

Some Observations on the Indications and Counterindications of Narcoanalysis.

Lawrence S. Kubie, Sydney G. Margolin.

The Use of Sodium Amytal in the Examination of Criminal Offenders.

Morris Hermann.

## PSYCHOSOMATIC MEDICINE: SOMATIZATION REACTIONS\*

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The term psychosomatic medicine has two somewhat incompatible connotations. It is used by some to refer to a point of view, and by others to a limited number of diseases. In the first instance it is regarded as referring to a guiding principle of medicine<sup>1</sup> which should apply to all illness and should represent the point of view of the surgeon and the internist, as well as of the psychiatrist. It is to be hoped that the recent emphasis on the term will reawaken an interest in the sick *person*, instead of merely in his disease; that it will bring an awareness of the man's daily struggles as having as much (or more) to do with the way he may feel as bacteria or bullets. Many of us in psychiatry join Weiss and English<sup>2</sup> in the belief that there should be a new emphasis on the method of study in which there is no less consideration of the soma but much more study of the psyche.

By others the term psychosomatic medicine is used to describe certain diseases. Enthusiasts and promoters of this point of view insist and persist in using it to apply to types of "bodily disorder whose nature can be appreciated only when emotional disturbances (*i.e.*, psychological happenings) are investigated in addition to physical disturbances (somatic happenings)" (4). There may be a pragmatic value in the utilization of the term to apply to a group of borderline conditions in which there is a very major emphasis on the emotional component in the symptomatic expressions. It might be argued that it is convenient to have a term which will specifically include the physical expressions and physiological changes associated with the emotional life of the individual, and presumably exclude those illnesses predominately physical. While there is minimal purpose served by the psychiatrist's interest in the majority of cases of acute pneumonia or for the surgeon's concern about the psychological aspects of acute appendicitis, there does exist an important psychological component which should

be recognized even in these cases. Similarly, there may be little need for the internist to concern himself about the cardiac function in the schizophrenic, but the pathological findings of Lewis suggest even this might be very significant. While these diseases, pneumonia and schizophrenia, represent the opposite poles of relative involvement of the psyche in illness, these poles do have connecting links (5), and there is reasonable basis to believe that these could be much further elucidated if the physician in charge were motivated by psychosomatic discipline.

Medical training of the average physician has been inadequate to teach him either to understand or to treat the psychological and emotional factor in illness. Consequently, there has been justifiable criticism of the insufficiency of his evaluation of his patient's illness solely on the basis of his disease. On the other hand, there has been equal validity in the criticism of the psychiatrist who has moved so far from the pathway of the physical and chemical that he neglects or forgets the side of the triangle which consists of the physical examination and treatment of his patient. Instead of the psychosomatic concept being regarded as a subtle effort on the part of the psychiatrist to widen his clinical field, it should be looked upon as a widening of the concept of illness as something involving both the psyche and soma, the total person.

The psychosomatic concept is not new. No doubt the historian could find evidences, at least as far back as Hippocrates, that emotions had a causal relationship in some physical diseases. Zilboorg (8) reported that the fight to emphasize the emotional factors was on a hundred years ago, led by Nasse and Jacobi. The observations of Beaumont, followed by those of Pavlov, and later Cannon, Bard and Gantt, and a horde of others, laid the foundations. As pointed out in a squib in the *New England Journal of Medicine*, May 10, 1945, these workers built the groundwork "for a scientific approach for the study of mind and matter, and the influence of the former over the latter—a reality empirically accepted and never for an instant doubted by Bishop Berkeley, the homeopaths, the mesmerists, Elisha Perkins, and the followers of Mary Baker Eddy.

\* Presented at the Annual Meeting of the American Society for Research in Psychosomatic Problems, Inc., New York, May 11, 1946.

<sup>1</sup> The Introductory Statement in the *Journal of Psychosomatic Medicine*, 1:3, 1939, gives the editors' definition: "Psychosomatic Medicine concerns itself with the psychological approach in general medicine."

<sup>2</sup> Weiss, E., and English, O. S.: *Psychosomatic Medicine*. Philadelphia, W. B. Saunders, 1943.

"Except for a few ardent and credulous cults, however, and a numerically less imposing group of psychologically and scientifically minded physicians, it has required for the population at large a second world war and a popular pictorial magazine<sup>3</sup> to acquaint the people with the actuality of psychosomatics."

Certainly the war has given added emphasis to psychosomatic medicine. Every Army physician was confronted with a far greater number of patients having physical complaints in which no organic pathology was found than he saw in civilian life. This contrast between civilian and Army practice has been aptly phrased as applied to Army psychiatry. In civilian practice, the physician is concerned with the reaction of abnormal persons to normal situations; in the military he is concerned with the reaction of normal persons to abnormal situations. Even a minor incapacity of a soldier called for his hospitalization, but the emergency required his prompt return to effective duty. This meant return to the special physical and emotional stresses which caused the high incidence of the functional physical complaints as seen in patients on both medical and psychiatric wards.

Just how extensive these functional physical complaints were can be shown in a few figures which are available. A survey by internists of eleven general hospitals in the zone of the interior indicated that 24.2 per cent of the patients on the cardiovascular wards and 20.7 per cent of the cases on the gastrointestinal wards were functional. In a station hospital, these figures rose to 41 per cent of the cardiovascular cases and 30 per cent of the gastrointestinal cases. And all these data were supplied by internists! Because the patients in general hospitals represent a fairly well-sifted group, the percentage of such problems in the dispensary must have been much higher. Also a survey, made by or with a psychiatrist, would have disclosed higher figures.

Approaching the problem from another angle, namely, the investigation of the incidence of physical complaints in psychoneurotic disorders, a survey was reported by Brill (2) of 585 unselected cases of psychoneurosis seen in six Army general hospitals. In this group, the chief and primary complaint of the psychoneurotic patient was concerned with some organic dysfunction in 159 cases, or 27 per cent of the total. In an additional 229 patients, or 39 per cent, some organic dysfunction was present as a secondary manifestation, secondary in the sense that it was not the chief or major complaint.

These total figures were broken down to show that of the 585 cases, 29 per cent showed psychogenic gastrointestinal reactions; 14.2 per cent cardiovascular reaction; 9.4 per cent rheumatic reactions.<sup>4</sup>

In a similar study by Poliak (7), 500 neuropsychiatric patients were surveyed in the Naval Hospital at Great Lakes. He found that 236 cases had complaints concerning at least one body system, 185 had complaints involving two body systems and 77 included three or more systems. The most common somatic complaint, occurring in 126 (25 per cent) patients, was referred to the gastrointestinal tract. Although he did not differentiate between those cases in which this was the primary complaint and those in which it was secondary, he did indicate that 70 per cent of the initial group of patients complaining of gastrointestinal disturbances were first admitted to the medical or surgical wards. Eighty-eight patients (17.6 per cent) complained of cardiovascular symptoms and 71 (14.2 per cent) of skeleto-muscular symptoms.

The chief significance of these figures lies in their emphasis on the emotional factors in the illness of incapacitated, hospitalized men in the military service. As the statistics indicate, they were numerous on our psychiatric wards, but our psychiatrists were often, very often, called to the medical or surgical wards to see similar cases. Medical personnel were brought face to face with the need for greater understanding of the physiology, anatomy and pathology of the psyche. It is intriguing to speculate why so many physicians are so blind to the emotional factors in disease. It requires more explanation than the swing to the soma, initiated by Virchow's (1) brilliant work in pathology. It requires a more satisfying answer than blaming medical education, as much as that has been at fault. Regardless of the causes, we were greatly impressed in the Army by the conspicuous absence of physicians who possessed sufficient understanding of these illnesses to diagnose or treat them adequately.

#### TYPES OF PROBLEMS

The types of functional organic complaints seen in the Army were no different from those in civilian life. They included the gamut of illnesses in which the organs of the body act as mirrors for the emotional maladjustments of the individual. In general, there were four groups of emotional expressions using bodily systems which repeatedly and continuously came under the scrutiny of the intern-

<sup>3</sup> Life Magazine, Feb. 19, 1945.

<sup>4</sup> Psychogenic disorders characterized by joint or musculoskeletal pain resembling myositis or fibrositis.



ist—the cardiovascular, the gastrointestinal, the great group of aches and pains included in the cephalalgias, arthralgias and myalgias, and lastly the allergies.

The emotional symptoms in physical disease, *e.g.*, the anxiety in original attacks, the delirium of febrile disease, are not included. Nor are the psychological factors in the seriously ill, in operative cases, in amputees, in cases of facial disfigurement, paraplegia, in the blinded, and the deafened. Though discussion of these is omitted here, it is essential that they should be the object of special study and therapeutic effort of the physician in charge.

Cardiovascular disease has as its five most common symptoms pain, shortness of breath, palpitation, murmur, and fatigue, all of which may be the expression of emotionally caused, as well as organic, heart disease. No other body system is used so frequently, in a symbolic sense, to refer to love and to hate. Parenthetically this should point out to us at least one lead as to the emotional significance of disturbances involving the heart. As a symbol of affection, we are familiar with the universal use of the heart as a valentine, the expressions of "loving with all of my heart," "a warm heart," "heart throbs," "heartfelt." We have words indicating the lack of love or the presence of hate in such words as "hardhearted," "cold-blooded," "heartless," "heart-rending." We speak of one being "heartsick" or having a "heartache." Most physicians have observed that an individual receives the news of a damaged kidney with much more equanimity than information about a heart which is not functioning properly. In clinical experience, a peculiar and often an exaggerated emotional response usually results from disorder of the heart, and many heart difficulties have their entire basis of origin in emotional disturbances.

Similarly, the gastrointestinal tract presents a wide variety of functional disturbances and, in general, probably lends itself to mirror the emotions better than any other body system. This may be, in part, because it is partially under voluntary control. Next to the skin, the gastrointestinal system has more contact with the external world than any other part of the personality. It receives more direct demands for adjustment and accommodation, more insults and abuses, and a greater variety of opportunities for gratification than any other set of organs suffers or enjoys. Such disturbances occur in all of us, and in some of us all too frequently.

Perhaps because of their organic interests, their enthusiasm for pathology, too many physicians ig-

nore these basic facts. Crookshank (3) expressed this paradox in medical attitude by stating: "It always seemed to me odd in the extreme that doctors, who, when students, suffered with frequency of micturition before an examination, or, when in France, had actual experiences of the bowel looseness that occurred before action, should persistently refuse to seek a psychological correlative—not to say an etiological factor—when confronted with a case of functional enuresis or mucous colitis. I often wonder that the hard-boiled and orthodox clinician does not describe emotional weeping as a new disease, calling it paroxysmal lacrimation and suggesting treatment by belladonna, astringent, local application, avoidance of sexual excess, tea, tobacco, and alcohol, and a salt-free diet with restriction of fluid intake; proceeding, in the event of failure, to early removal of the tear glands. Of course, this sounds ludicrous, but a good deal of contemporary medicine and surgery seems to me to be on much the same level."

It is encouraging to see the increasing emphasis placed on the emotional factors in these conditions, as exemplified by such gastroenterologists as Alvarez and Palmer, the latter having described certain individuals as having a "barometric abdomen," and in these individuals it is only an indication of the total personality functioning.

As in the case of cardiovascular disease, the layman's language suggests an intuitive recognition of the psychological factors in gastrointestinal disease which exceeds that of the average physician. Many terms indicate a very definite relation between personality traits and various parts of the gastrointestinal tract. We speak of a "sucker" as the man who "bites" and is fooled. We designate certain persons as "leeches" because of their hanging-on propensity. We speak of a person "sinking his teeth" into a job; we speak of not being able to "stomach" something, of "guts," of "intestinal fortitude," of "having a belly-full," and of "biting off more than one can chew." A large number of vulgar words and phrases for feces are used colloquially to indicate depreciation or disparagement or hate.

There is a third large group of illnesses in which the psychological component is becoming more clearly recognized—those individuals with various types of aches and pains in the head, the joints, the muscles, and elsewhere. The whole group of cephalalgias, arthralgias and myalgias are becoming increasingly recognized as having a very major psychological component.

While allergies are less definitely psychological

in origin, there is much evidence that, in certain instances, emotional factors are of major importance, at least in the production of the trigger mechanism of the allergic response. The role of emotional factors in these and, in fact, all the conditions mentioned probably represents the most promising area of research, with perhaps the largest pay-off in results, of any group of problems in medicine. A major step forward in the solution of providing better medical care for this group of patients is the joint approach of the internist and psychiatrist. Such an arrangement was tentatively accomplished in the Army and the subject discussed (16) with the Service Command and civilian consultants in internal medicine. Unfortunately for the cause of psychosomatic medicine, the war ended before the joint plans of the Medical and Neuropsychiatry Consultants Divisions were more than formulated.

#### EDUCATIONAL EFFORTS

In many, if not most, instances, our general medical officers were not sufficiently oriented and trained in this phase of medicine to provide the most effective treatment. Consequently, since it was our aim to diagnose and treat these cases of "organ neuroses" on the medical wards, three major educational efforts were planned. As outlined to the consultants in internal medicine, certain goals were set. First would come a reorientation of the average physician. He must be made aware of the prevalent mistaken attitudes and practices now used, such as making a diagnosis by exclusion—by examining a man carefully physically and chemically, but ignoring the psychological examination. In spite of lack of training he should learn how to prepare a patient to understand the concept of functional illness. Probably more important, he must change a too-prevalent attitude that the organic type of problem is the most interesting. Undoubtedly the latter is due to our medical training which emphasizes the organic and often fails to appreciate the reality and importance of illnesses caused by emotional maladjustment.

Our second educational effort was to provide the average medical officer with the rationale for the understanding and treatment of this type of problem. This implies that the physician must become acquainted with psychological medicine and with the dynamics of personality adjustment. Fundamental in this understanding is the machinery by which and through which the personality operates. He must have some grasp of what is meant by, and what happens in, the unconscious as well as the

conscious portion of the personality. As the organs function without conscious control of the individual, so a considerable portion of the personality, the psychic life, functions on an unconscious level. Our assumption is that a major portion of the personality is unconscious and that this unconsciousness is a dynamic and potent force in personality function. It is not difficult for the average individual to grasp the fact that blushing is a physiologic change entirely due to emotion, yet, paradoxically, many physicians are entirely ignorant of the mechanism by which chronic emotional tension at an unconscious level may produce major physiologic changes which largely account for the many symptomatic expressions of the "organ neuroses," as well as other types of psychoneurosis.

Basic in the dynamics of personality is the role of anxiety, that phenomenon comparable to pain, which is a central dynamic theme in all psychiatry. Nearly all of the conditions for which the psychiatrist is consulted can be regarded as manifestations of anxiety. We must differentiate anxiety from fear, the former being an internal threat and the latter a normal response to external threat. Often they are associated, but the devious directions by which anxiety may express itself are far more complicated than expressions of fear. Sometimes anxiety is expressed directly by the personality and is manifested by tenseness and apprehension or as a depression with the usual concomitant physiological symptoms. Sometimes it is expressed in aggressiveness against the external situation as in criminal behavior, sometimes indirectly as in alcoholism, sometimes on the person himself in a self-inflicted injury. By automatic mental machinery, it may be converted into various types of psychological symptoms—the compulsion obsession or paranoid trends. Very often it is turned on the self and sometimes reflected in ideation as hypochondriasis, sometimes directly through the central nervous system as a conversion reaction—the paralysis and anesthesia—and very often through the autonomic nervous system in the group of illnesses called the "organ neuroses," the psychosomatic expressions.

Finally, an educational endeavor must attempt to give the physician some cue as to the nature of these specific organ symptoms through which the patient expresses his maladjustment. This is most difficult, for we cannot as yet completely explain the choice of the neurosis. Why does one person use, predominantly, his cardiovascular system to express emotional response and another person his gastrointestinal for similar needs? In all cases the individual's choice is automatic and unconscious

and there is little doubt that the choice is predicated on the particular personality construction.

We have begun to accumulate data on these personality structures which give insight into the meaning of particular symptoms. The gastrointestinal system is particularly adapted to expressing the individual's major functions of taking in or receiving, or holding on to or retaining, and finally of eliminating or giving. One of the simple, now fairly well-accepted, illustrations is the patient who has a strong unconscious need for affection, a strong desire to be appreciated and taken care of, who physiologically translates these trends as a need to be fed or for food. In a sense, the gastrointestinal tract, and particularly the stomach, tries to serve a double function—that of an emotional recipient as well as a food recipient with the concomitant necessity to serve as the organ of digestion. This illustration serves only to indicate the trend of our findings, and can be greatly expanded. Increasing data are available regarding the personality characteristics in various of the so-called organ neuroses. Also the psychological factors in many organic conditions have become recognized, particularly those which may represent the prolonged effect of emotional tensions.

Our point in this educational plan was to give the physician some basis for understanding what he sees, the irrationality in sane cases of treatment by platitudes and placebos, and, most important, the reality and validity of these illnesses.

Although these educational efforts were implemented to the extent of a technical medical bulletin on "Neuropsychiatry for the General Medical Officer" (No. 94, 21 September 1944), a contemplated bulletin dealing with psychosomatic medicine *per se* has not yet been issued. One of the major factors in the development of a revised psychiatric nomenclature, a step which had the hearty endorsement of the Medical Consultants Division, was the frequency of neuroses characterized chiefly by somatic complaints. In addition to the anxiety reaction, dissociative reaction, phobic reaction, conversion reaction, and the other neurotic responses, the specific heading of "Somatization reactions" was included.

The detail as given in the bulletin<sup>5</sup> under this heading was as follows:

(f) *Somatization reactions.*

1. *General.*

This term is used in preference to "psychosomatic reactions," since the latter term refers to a point

of view on the discipline of medicine as a whole rather than to certain specified conditions.

The anxiety is relieved in such reactions by channeling the originating impulses through the autonomic nervous system into visceral organ symptoms and complaints. These reactions represent the visceral expression of the anxiety which is thereby largely prevented from being conscious. The symptom is due to a chronic and exaggerated state of the normal physiology of the emotion, with the feeling or subjective part repressed. Long continued visceral dysfunction may eventuate in structural changes.

This group includes the so-called organ neuroses. It also includes certain of the cases formerly classified under a wide variety of diagnostic terms such as "conversion hysteresis," "anxiety state," "cardiac neurosis," "gastric neurosis," etc.

It may become necessary to add certain other subgroups of psychogenic reactions. It is not intended that the six listed be interpreted as necessarily including all possible reactions of this sort. If additional subcategories are recorded as diagnoses, they should be clearly identified as psychogenic reactions and should specify the system involved and the particular symptomatic expressions.

Each type of this reaction should be amplified with the specific symptomatic expression, an anorexia, loss of weight, dysmenorrhea, hypertension, etc.

2. *Psychogenic gastrointestinal reaction.*

This subcategory may include some instances of such specified types of gastrointestinal disorders as peptic ulcer-like reaction, chronic gastritis, mucous colitis, constipation, "heartburn," hyperacidity, pylorospasm, "irritable colon," etc.

3. *Psychogenic cardiovascular reaction.*

This subcategory includes most cases of such established types of cardiovascular disorders as paroxysmal tachycardia, pseudoangina pectoris, and some types of hypertension.

Neurocirculatory asthenia has been classically defined as an "anxiety reaction"; similar clinical pictures, without subjective anxiety, will be classified as psychogenic cardiovascular reaction.

4. *Psychogenic genitourinary reaction.*

This subcategory includes some types of menstrual disturbances, impotence, frigidity, dysuria, etc.

5. *Psychogenic allergic reaction.*

Occasional instances of apparent allergic responses, including some cases of hives and angioneurotic edema, have a major emotional element in their production. Such cases should be recorded as psychogenic allergic reactions.

<sup>5</sup> TB Med203—Nomenclature and Method of Recording Diagnoses, 19 Oct. 1945. P. 10-24.



#### 6. Psychogenic skin reaction.

This subcategory includes the so-called neurodermatoses, dermatographia, and other related disorders, when involving major emotional factors.

#### 7. Psychogenic asthenic reaction.

General fatigue is the predominating complaint of such reactions. It may be associated with visceral complaints, but it may also include "mixed" visceral organ symptoms and complaints. Present weakness and fatigue may indicate a physiological neuroendocrine residue of a previous anxiety and not necessarily an active psychological conflict. The term includes cases previously termed "neurasthenia."

In the Army we had a unique opportunity and responsibility. We had a peculiar social organization of medicine which permitted those in supervisory position to place great emphasis on policies and practice. To a degree, we controlled and regulated these policies and practices for the largest single group of doctors in the world. Neuropsychiatry was strongly supported by General Hugh Morgan and all of his consultants in internal medi-

cine in the belief that the principles presented here were valid, that they were vitally important and, in so far as they could be placed into actual practice, that they would be of unlimited profit to all medicine.

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#### CONFERENCE OF THE COMMITTEE ON INFANCY AND EARLY CHILDHOOD

On October 25 and 26, 1946, the members of the Committee on Infancy and Early Childhood and 40 guests gathered together at the Judge Baker Guidance Center in Boston for a discussion of the general topic, "Influences on Child Rearing of Maternal Attitudes." Dr. Marian Putnam and her staff of the Children's Center of Roxbury, Massachusetts, presented, in detail, a case which has been under treatment at their clinic for over a year. The discussion then held had as participants representatives of the fields of education, pediatrics, psychiatry, psychoanalysis, psychology, and social work.

A short business meeting was held by the Committee on October 20. Since it is one of the rules of the Committee that the chairman hold his position for a period of three years, and since Dr. Senn has occupied the Chair for that length of time, Dr. Benjamin Spock was elected to, and agreed to assume, the chairmanship of the Committee. Dr. James Baty, Professor of Pediatrics at Tufts Medical College, was elected to the Committee. It was suggested that the next meeting be held at Chicago, New Haven or Rochester, Minnesota, which will be decided by the Committee within the next several months.

The consensus of all those who attended these meetings was that they were extremely stimulating and educational. There were many requests for meetings of a similar type within the next year.

## BRIEF PSYCHOTHERAPY IN PSYCHOSOMATIC PROBLEMS \* †

ROY R. GRINKER, M.D.

### I. THEORETICAL FORMULATIONS

The last war taught us much concerning the reactions of the human mind and body under conditions of severe and sudden stress. Knowledge of the emergency reactions, the defensive states and the processes of disintegration and resynthesis has been clarified considerably. All these data can and should be utilized to revise and modify our concepts of how man reacts to less severe and less sudden peace-time stresses.

During the war great emphasis was placed on the severity of the stress itself, even to the point of artificially quantifying it, thereby indirectly estimating the degree of stability of the reacting soldier. The inevitable resulting absurdity was the diagnosis of psychoneuroses for men reacting to less severe or short-lasting stress, and war neuroses or its various euphemisms for those enduring greater degrees of stress for longer periods of time, in spite of the fact that the psychological and somatic symptoms and the uncovered dynamisms were the same. Neither quantity of stress at a given moment nor quantity of time during which it impinges on the subject determines the likelihood for an individual to react either temporarily or permanently, or to develop the latent tendency for future psychosomatic illness, and there is no relationship to the severity of the subsequent illness or its treatability.

Qualitative factors which are specific for the development of psychosomatic disorders depend on the nature of the precipitating factor and on the preparation within the individual personality. We do not know enough to predict that a particular type of stress or frustration will produce a neurotic reaction in civilian life, nor in combat, in any individual until a breakdown has once occurred. It is a conclusion made in retrospect. Although even the so-called normal person had his "achilles heel" and cracked with the same symptoms as the more sensitive product of our culture, war neuroses were reactions of persons prepared to respond in an individual manner to a particularly meaningful stress. But this preparation was not in the form of an

overt syndrome consisting of abnormalities in behavior, feelings or visceral functions. It was a personal preparation that lay concealed in latent form requiring a stimulus cue of specific quality to expose it. After such stress had exhausted the emergency adaptive reactions of the organism, the underlying weaknesses in integration and in synthetic organization were revealed. The simplest of examples serve to illustrate this fact. The man who as a child was a stutterer, nailbiter or enuretic, although free from these traits for decades, among other symptoms, developed his previous habits once again under specific stress. This was true for psychosomatic, cardiac and gastrointestinal symptoms, as well. But such individuals had no monopoly on these symptoms for almost every soldier developed emotionally induced tachycardia, cardiac irregularities, nausea, vomiting, and diarrhea, and some also developed enuresis, stuttering or nailbiting for the first time. Actual observations indicated the universality of vomiting and diarrhea as reactions to situations evoking fear, hopelessness and rage. In spite of these symptoms men continued their struggles and most of them were successful in maintaining efficient activity. Those who became ill differed from their normal companions only by greater and disabling quantities of reaction, or by its persistence after the evoking stimulus had subsided. Others developed a recrudescence of symptoms far away from the battlefield in reaction to such minor stresses as detachment from the combat group or difficulties encountered on reintegration into their domestic, social or economic lives in a civilian setting. They rationalized concerning the rich food, its greater quantity and the strange surroundings in which it was ingested, or explained the symptoms as evidence of irreparable damage to their digestive organs by long maintenance on meagre army rations. Experience is proving that these men were only a contemporary fraction of those destined to be precipitated into illness. The others have not yet come in contact with their crucial stimuli.

Whatever these appropriate and crucial stimuli may be, they explode a tenuous stability, releasing or stimulating emotional needs and attitudes which, incapable of conscious expression, are discharged partially or entirely through low-level visceral innervations producing disturbances in the smooth

\* From the Division of Neuropsychiatry of the Michael Reese Hospital, Chicago.

† Presented at the Annual Meeting of the American Society for Research in Psychosomatic Problems, Inc., New York, May 11, 1946.

muscle organs. Two separate approaches to the psychosomatic disturbances of visceral function have been active in this country—the psychoanalytic investigations which attempt to correlate specific emotional etiology with specific symptoms, and the investigations of specific profiles of external personality and behavior accompanying special visceral syndromes. Their theoretical conceptions complement rather than contradict each other and can be stated in four fundamental propositions as follows:

1. An inexpressible specific unconscious need or feeling is etiologically concerned in the development of a specific visceral syndrome, *i.e.*, peptic ulcer or asthma.

2. The total personality expressed by external and conscious attitudes is specific for a visceral syndrome since it consists of characteristic reaction formations and compensations which are complex derivatives of the opposing psychological forces which prevent a specific need or feeling from becoming conscious.

3. The visceral dysfunction does not represent the central conflict but is the exaggeration in quantity and time of the normal visceral concomitant of the specific emotion not capable of expression through the highest levels of the neuraxis and hence not exteriorized in thought, speech or behavior.

4. Long-standing visceral dysfunction eventuates in permanent irreversible morphological change in the implicated organ or system.

In testing these propositions by the experience derived from military life, we found that acute psychosomatic syndromes do not clearly or always confirm the conclusions drawn from chronic syndromes of civilian life.

The first proposition, developed by psychoanalysts who strive for exactness of emotional etiology, has been formulated most definitely for the gastrointestinal disorders. It happens that upper gastrointestinal distress associated with vomiting is by far the most frequent psychosomatic syndrome to appear in the war, as contrasted with the frequent cardiac neuroses of the last war. When we uncover the unconscious emotions expressed by the symptom, they are found to be a mixture of fear, rage and dependent crying. I do not remember a single person who did not express this combination toward the enemy, the current Army authoritative figures or the primary object, the original parental figure. Diarrhea had in it little of the so-called restitution factor but was based on a mixture of hate and fear. The same held true for

headache or tachycardia. Granting that we did not uncover the deepest emotional patterns and that therapeutic results never prove causation, yet uncovering these mixed emotions and synthesis of them by the ego usually resulted in disappearance of the symptoms. Each symptom was the somatic expression of several emotions and the same emotions could be found underlying a variety of somatic expressions. The unconscious emotional factors in the etiology of acute psychosomatic symptoms were complicated mixtures.

The second proposition, which considers the specific psychological profile of the personality in its totality of performance, was disappointing in its revealed nonspecificity. Sharpness and exactness were not characteristic and even actual contrasts to the expected profiles were encountered. Perhaps the youth of the subjects and the short duration of the symptoms could explain this fact. Yet the latent psychological preparation for a specific psychosomatic syndrome as a result of early developmental influences should have been present before the symptoms developed or became fixed. Appropriate reaction formations and overcompensations were present in some patients but most of our young soldiers revealed direct evidences of the manifestations of aggressivity or passivity in their character formation, long antedating the stress. The aggressive overcompensation against passive dependency, the passive appeasement as reaction against unconscious rage was certainly not a characteristic finding.

According to the third proposition, in most cases the symptoms were not expressive of a conflict but were secondary regressive results. Only a few examples of hysterical syndromes involving the gastrointestinal tract were encountered in which the symptom expressed the opposing forces of the conflict itself. In the armed forces many emotional trends are opposed by the rigid military environment with its potentialities for unreasonable punishment and its indifference to the individual. Likewise, in time of war, adaptation to military life becomes necessary to appease the demands of each man's personal ideal of masculinity. Thus from both the parasitic external military superego and the internal personal ego-ideal many needs and emotional reactions must be repressed automatically and unconsciously, as well as suppressed by a conscious effort of the will. As a result of such ego-superego conflicts one should expect little or no expression of forbidden feelings in thought, speech or behavior but much in terms of their visceral concomitants—hence psychosomatic syn-



dromes or organ neuroses. The typical civilian patient reports little conscious anxiety except as a secondary concern over the significance of the symptoms. It was rare indeed in the Army to find such a clear picture. Most men had anxiety, fear, rage, or need for love which they felt, thought and openly verbalized as well as expressed viscerally. This could have been due to a quantitative overflow, in spite of the pressures against direct expression, because of the severity of the stress.

The final proposition, that long-standing visceral disturbances eventuate in morphological changes, now requires consideration. Men who developed acute upper gastrointestinal symptoms and were quickly hospitalized for careful studies showed unmistakable evidence of peptic ulcer. There could have been little chronicity to the psychological process since the early character and behavior did not indicate a previous latent psychological syndrome. Although of less validity as evidence, many men with lengthy symptomatology and with the same emotional problems showed no evidence of morphological change. Tissue damage does not seem to be entirely related to chronicity of the psychological process but results from some as yet unknown plus factor.

To summarize the testing of practical experience with acute psychosomatic disorders against our present theoretical formulations, I have indicated that the quantity of stress is not significant in the production of the pathological state. The kind of stress necessary to produce symptoms cannot be foretold in advance. An acute psychosomatic syndrome is not always caused by a single inexpressible feeling or need nor is it correlated with a specific quality in external personality profile or internal psychological preparation. Morphological changes are not always related to chronicity of the symptomatic process. However, it is a valid concept that the dysfunction does not represent the conflict but is the secondary result of a breakdown of the normal channels of emotional expression.

Psychosomatic syndromes are indications of a dissolution of an adult psychological organization—in other words, a regression to less mature adaptations. I use the word adaptation advisedly, because in war we have seen that neuroses are protective against the more severe psychotic dissolutions of the ego. Likewise, in civilian life ill-advised tampering with psychosomatic states sometimes results in more serious psychotic manias or depressions. Regression to visceral modes of expression are teleologically significant as protective devices and are of the same order as the regression to previously

present but abandoned patterns of behavior, such as stuttering, nailbiting and enuresis. Such expressions may represent not only a particular emotion or need but also a previously learned infantile technique of coping with an overwhelming environmental stress that stimulates a host of anxiety-producing internal reactions. Observe the child and his near-conscious combatting of hostile environmental forces by gagging, vomiting, headache, diarrhea, crying, enuresis, temper tantrums, bulimia, anorexia, etc., and the impotency of the adult world to deal with these reactions. It should not be surprising that several emotions may be expressed by the same visceral activity. The final common pathway of the nervous system, whether somatic or autonomic, discharges impulses from many private pathways in an identical manner. The autonomic nervous system especially reacts in response to affective stimuli with a diffuse and almost mass discharge.

## II. PRACTICAL THERAPY

It was not so long ago that a great and well conceived movement underwent temporary bankruptcy because of its rapid expansion and grandiose promise of extensive dividends. The mental hygiene movement promised far more than it could deliver when existing knowledge was too general and too impractical. We are about to enter, in fact may have already entered, into another inflationary period, this time with psychosomatic medicine. Reams have been written, volumes have been spoken on the subject until the word psychosomatic has become part of the vocabulary of most intelligent people. Even many medical men know what it means. Hundreds of former medical officers apply for training in the non-existent specialty of psychosomatic medicine and some will be properly instructed in the mind-body concept according to existing theories in various schools. But this theoretical knowledge is only of importance to them as a guide to therapy. They will soon be confronted by the inevitable fact that to treat the body they must treat the emotional source of the dysfunction and of necessity become psychoanalysts or psychiatrists and limit their endeavors to a few sufficiently interesting patients.

Brief psychotherapy has been suggested as an effective means of making few psychiatrists available to more patients but actually the brief is only briefer. If we continue to teach the principles of psychosomatic medicine to general practitioners and internists only for them to recommend treatment by psychiatrists, we are in danger of alienat-

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ing their interest and support. If psychiatric treatment is necessary we shall never have enough psychiatrists to treat all the psychosomatic problems. In the military services young medical officers, after brief training, were capable of dealing with the simpler problems and could learn to use some psychiatric techniques adequately. In civilian life the pressure of time, patients and economic factors indicate that little more than a brief visit once a week is all that most internists can give each patient. Such therapy cannot hope to be entirely successful. Until sufficient psychiatrists are produced and more internists and practitioners make time available for the treatment of psychosomatic syndromes we must use heroic short-cuts in therapy which can be applied by all medical men with little special training. One such method can be exemplified by the presentation of a single case treated briefly in a few sessions.

#### *Case Report*

An ex-service man, aged 22 years, entered Michael Reese Hospital because of attacks of severe abdominal pain, and diarrhea. These attacks had begun while overseas in the Army, and resulted in his evacuation through the hospital system to the United States. However, he was not discharged medically but on "points." The last attack occurred while at home awaiting acceptance by a business school, after a discussion with his father over funds for the purchase of an automobile for his own use when away at school. After thorough but negative medical investigation, the internist in attendance requested psychiatric consultation.

The patient was a well built, tall, handsome young man, extremely pleasant in his manner and interested in getting well. His family had moved to the United States from Canada when the patient was 12 years old and here the father had made a phenomenal financial success. He was an attractive, dynamic, proverbial type of successful executive who dealt in big business with rapid-fire decisions. The identical pattern of behavior characterized the father in his life at home. The mother was a thin, unattractive, somewhat complaining, shadowy figure, who had numerous abdominal operations and frequent attacks of diarrhea. These decreased when her husband took her more frequently on his business trips. A younger brother of 17 was the only other member of the family. In telling of his family life, the patient considered that there was nothing lacking, that every one was good and nice. Although not effeminate, he gave the impression of considerable passive compli-

ance and complacency in his attitudes. His war experiences were uneventful and not dangerous. He had been stationed in England for many months with a quartermaster company, functioning as a driver. He had gone to France long after D-day and had never been in combat. Only once had he been near danger and that was while driving through territory into which German paratroopers had penetrated. He had been a "little scared" but had never seen a German. His first attack of abdominal pain came on ten days later while driving a car for his captain.

Because the patient could not remember any conscious emotional attitudes during any of his attacks of pain, it was decided to attempt a reconstruction of the setting prior to his first spell and to uncover the feelings accompanying that particular episode. Accordingly, pentothal was administered intravenously and the patient was told that he was driving his truck on the specific day on which he had been a "little scared."

The patient began talking fearfully of his hearing that German parachutists were in the neighborhood into which he was ordered to drive. Suddenly his truck broke down near a hill from behind which shooting could be heard. By regulation he was forced to stay near his truck until help arrived, so after hiking to the nearest ordinance patrol he returned to the vicinity of his truck and sweated out relief in a fox-hole. For forty-five minutes he remained there alone, in abject fear, although he heard only distant shots. Under pentothal he disclosed his thoughts, never before verbalized, which were those of a little child pleading for God to save him. He was too young to die and besides he had been a good boy, never harmed anyone. What would Mother do if he were hurt or killed? As he cried and pleaded to the Almighty for help, he perspired and writhed on the bed and jumped at the slightest noises. As I listened to this first exteriorization of the old forgotten stream of thought, there were missing all but minor manifestations of courage and anger. Finally a relief truck arrived and the patient became more aggressive as he directed his fellow soldiers to turn their truck around. As they drove closer to camp he actually became belligerent and when he saw the guards and machine guns in position, he verbally dared those bastardly Nazis to come this way, "We'll kill them like rats."

After the pentothal interview the patient remembered that he had been scared badly but had forgotten all about it. His fear was then dealt with as an understandably normal reaction, and then in

a state of emotional exhaustion he fell asleep. Subsequent interviews concentrated on "the little boy within the grown man" and the universality of the fear reaction. A few days later another pentothal interview was undertaken in the setting of the first intestinal attack ten days after the parachute incident. The patient had driven all day long for his commanding officer, an alcoholic captain, who apparently mistreated his men and gave to himself the privilege of women and liquor although punishing his men for identical activities. The patient was his personal driver and often had to support the captain standing or walking, light his cigarettes and feed him when he was in a state of tremulousness. The captain's alcoholic gastritis and lack of appetite cost the patient many meals for himself.

On this particular day the patient had driven from early morning, over badly damaged roads, until late at night when they stopped at a tiny French village. The captain ordered the patient to bunk in the truck under the sky while he went into the M.P. station and slept under shelter. Our patient kept reassuring himself that there were no Nazi paratroopers nearby, that they all had been cleaned out, that it was perfectly safe, "really perfectly safe," but in spite of this self-conducted psychotherapy he could not sleep for many hours. A few minutes after falling asleep he was awakened abruptly by severe abdominal pains and diarrhea. When the pain became unendurable, he went into the M.P. shelter and sought out his drunken captain who ordered a soldier to take him to the medics. From this local station he was sent through the hospital system, in which he had repeated negative tests for organic disease or infection, and eventually evacuated home. In the first hospital some guilt regarding his psychosomatic illness caused him to be oversolicitous about the externally wounded soldiers. During this pentothal interview the patient groaned and writhed with his pains. He held his hands over the abdomen, and tachycardia, excessive perspiration and his sickly green color left no doubt as to his suffering. He faithfully reproduced his initial attack in its entirety.

When he awakened we discussed the relationship of this attack to his fear at a second exposure to possible parachutists and his reaction to the captain who placed him in a dangerous position. He could not see why he should have felt resentful or angry toward the captain, and since there was a strong resistance against anything but the old "It was his right to order me as he wished," another pentothal was given in a few days. This time the

patient was placed again in the village square in the dark and urged to express how he really felt toward his captain. After considerable resistance, anger then spilled forth freely and completely. It was documented by countless incidents of discrimination, unfairness, lack of promotion, overwork, etc. The consciously passively accepted captain became a "bastard and a no good son-of-a-bitch" who took every advantage of his authoritative position.

After considerable abreaction the patient was interrupted and asked "And how about your father?" The answer was a surprisingly frank and abrupt, "He's the same kind of a son-of-a-bitch." In the present tense, he then verbally lived through an event of some years past before entering the Army. I shall summarize the lengthy but emotionally highly charged abreaction. Once when the father was absent from home, the patient's fraternity held a convention in Chicago and, because transportation was scarce, against orders, he borrowed his father's car. While away from home his pet dog had also disobeyed house rules and scampered upstairs into his father's room where it had vomited on a costly rug. On his return the father was very angry and called the patient before him to receive orders for the following punishment: he had to be in the house each night at 6:00 p.m. after high school and could not leave for any purpose thereafter for three months. I could only hear the patient's responses and not the father's angry accusations and directives. The patient admitted his guilt, gave his reasonable excuses and mildly expostulated against the severity of the punishment. "Don't you think it is too severe—yes, I'll take it like a man and not complain," although under the pentothal he sobbed pitifully. Ten weeks later the father was drunk one night and broke the punishment himself by asking the patient to drive him to his club. He invited his son to have a drink with him at the bar and in a maudlin sentimental fashion admitted that the punishment had been overly severe, admitted that the patient had taken it like a man and asked for forgiveness. They shook hands and the affair was over. But during this pentothal the patient gradually worked up into a real angry attitude toward the father which was expressed for the first time. These emotions were remembered, and discussed after the pentothal had worn off.

Subsequent psychotherapy was directed toward differentiating between infantile conscious appeasement with unconscious intestinal expression of rage, and adult and manly normally expressed justifiable anger. Obviously this was but one episode from a life-long pattern. The father at first denied to my

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questioning any arbitrariness in his attitude. But his wife refused to let him avoid the issue and contradicted him at every turn. She and the boy had been compelled by alliance to bolster their defenses against the mutual overstrict enemy and watch always for his weak spots. The father was a boss in his home as well as in his business and issued executive orders to his family or answered requests by a blunt "no" without giving reasons or qualifications. In this manner he wished to "make a man out of my boy" but actually he permitted no manly semblance of equality, forcing only an infantile obedience and appeasement. Normal emotional reactions could only be repressed. Confirmation of this principle was soon forthcoming as the boy made his first attempt to express his new-found independence, but the father was sufficiently disturbed at least to act the part expected by the psychiatrist. The result of therapy so far has been good in that there has been no relapse and the father has developed more respect for his avowed successor. The final outcome will depend on the life situations of the immediate future and will determine whether this brief therapy has been enough or whether further psychotherapy will be necessary.

This case has been presented in some detail to demonstrate the principles of procedure in brief psychotherapy of acute psychosomatic states. It demonstrates the processes of uncovering the repressed emotional content directly produced by the precipitating cause of the neurosis and its relation to earlier patterns. This patient showed quite clearly a combination of fear, rage and dependent crying expressed in a psychosomatic symptom in

a personality without the expected reaction formation. The working through and the reorientation of the patient's concepts of maturity as well as that of his human environment are demonstrated. But this occurred in a young plastic person with little defensive rigidity. His environment had not yet hurt him too badly. We are less fortunate in our brief psychotherapy when dealing with middle-aged people who have long been habituated to chronic neurotic patterns and have become fixed on the organic nature of their somatic symptoms. For most it must be sufficient to give them insight into their inexpressible needs and feelings and to teach them to recognize the environments in which their needs can be met and those which must be avoided because they stimulate unhealthy feelings. It is surprising how often such simple therapy is successful. It is a kind of therapy that can be employed by the general practitioner. It is identical to that which the old family doctor used so well with his intuitive knowledge of his patients' capacities and patterns of interpersonal relations.

Therapy can be most effective at the developmental level by discouraging the persistence of the infantile adaptive pattern. Instead of permitting its continued success early and demanding its use later by preventing verbal expression of feeling, we should encourage freer and more direct mastery of the environment. This is a problem of sound parental upbringing and pedagogy. It is a mental hygiene, a prophylaxis in the true sense of the word for which we now have sufficient backing in theoretical knowledge and practical directives. It can be the basis of the revitalization of the mental hygiene movement.

#### PSYCHIATRIC LEADERS ORGANIZE NEW FOUNDATION

The American Psychiatric Association has announced the formation of The Psychiatric Foundation, sponsored by the American Neurological Society. The Psychiatric Foundation states its objectives as follows:

- The education of and training for members of psychiatric teams.
- The promotion of psychiatric research.
- The study and codifying of medical legislation.
- The evolution and development of child psychiatry.
- The education of the public.

The Foundation will have as its officers and directors outstanding lay leaders of the country, whose names will be announced at a later date. Dr. Leo H. Bartemeier, Secretary-Treasurer of the American Psychiatric Association, heads the medical men designated by the American Psychiatric Association to assume responsibility during the organizing period.

## "ILL HEALTH" AS AN EXPRESSION OF ANXIETY IN A COMBAT UNIT \*

M. RALPH KAUFMAN, M.D.\*\*

Troops that had been in combat in the Pacific Area were, whenever possible, sent to an island base with a temperate climate for rest and physical rehabilitation in preparation for future combat. One of the primary aims of this rehabilitation period was to toughen the troops physically so that they should be in top condition during subsequent missions. It was naturally assumed that at the end of such a rest and retraining period the majority of the troops would feel physically fit. It was therefore somewhat startling when an attitude survey based on an anonymous questionnaire made in a veteran Pacific Infantry Division revealed the rather disconcerting fact that only 7 per cent of all the veterans and only 6 per cent of the Infantry veterans stated that they were in good physical condition. This meant that 93 to 94 per cent of the troops, as represented in the sample, felt that their physical health at the time of the survey was either "poor" or "bad." In other words they felt that they were in "ill health" and, therefore, not fit for combat.

This attitude is the more remarkable since this study was conducted after the Division had been through a three-month period of rest and rehabilitation in a temperate climate. At the time of the survey the troops were in the process of training and being readied for further combat.

The fact that the troops knew that they were being readied for further combat may have had some influence on their answers. However, as indicated above, the questionnaire was anonymous and it was clear that the individual soldier was certain that he could not be identified, which gave the majority of the answers a fair validity.

The question which indicated this attitude was part of a general anonymous questionnaire given to the troops by the Research Officer of G-1. The answers to selected questions were abstracted from the general questionnaire in order to study this subject in greater detail. There has, to my knowledge, been no study made to indicate exactly what an individual means when he states that he feels in poor or ill health. Frequently his complaints refer to a general feeling of being let down. In many instances there are complaints referable to one or the other systems. In this situation the soldiers were in the midst of a

physical reconditioning program and were presumably in excellent form, carrying out the tasks of a fairly stiff program. An attempt was made, therefore, to break down the type of complaints on which the soldiers based their concept of poor physical condition. There was an *a priori* suspicion that many of these complaints would be in the sphere of psychosomatic manifestations. This was borne out in the study and will be discussed in detail below. In order to clarify the underlying concept which led to this study it is essential to discuss some aspects of psychosomatic syndromes, particularly the somatic reverberations of anxiety.

Anxiety is a subjective experience with definite somatic expressions. These accompaniments are frequently misinterpreted by the anxious individual as somatic illness.

As is well known, the somatic expressions of anxiety center most frequently around the cardiovascular, gastrointestinal and respiratory systems. Thus various sensations around the heart, such as palpitation, extrasystoles, consciousness of heart function, amongst others, are frequent findings in the anxiety state. A "sinking feeling" in the epigastrium, increased peristaltic sensations in the intestines, diarrhea, a feeling of emptiness are frequently experienced. In addition, the respiratory system may be involved, feelings of choking, inability to catch one's breath, rapid respirations, lump in the throat, are often present. Other somatic manifestations of anxiety, such as urinary urgency, incontinence, pallor, cold sweats, trembling, tremors, incoordination, are seen. These expressions are multiform and may involve any or all somatic functions of the vegetative nervous system. The subjective experience may vary from a complete repression of the psychic experience to feelings of tension and a sense of impending catastrophe.

The understanding of these manifestations is especially important in the military service, since there is an overlapping between fear and anxiety. During combat and other dangerous situations the feeling of fear is normal. Various misunderstandings occur as to the biological function of fear in the face of danger. The fear reaction is to a real danger in the external world which is evaluated relatively realistically. It should lead to the proper actions, such as preparations to counter the danger, to seek cover, to take defensive measures, or to attack. Anxiety, on the other hand, is the reaction to repressed and

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unconscious phantasies that threaten the individual. There is a tendency of these phantasies to be linked up regressively with more primitive childhood situations of a threatening nature. The closer the actual danger comes to being identified with such earlier situations, the greater the anxiety potential. In all combat situations there is a combination of real fear (external danger) and anxiety (internal danger) reactions. However, the necessity for aggressive action in spite of the impulse to flight, the need to counter the paralyzing effects of fear, sometimes results in the fear of fear, or the idea that a soldier who is afraid is a coward. The usual tendency is to deny to one's self and one's fellows the presence of any fear reactions.

Modern psychological thinking, which has been formally accepted in the military service, holds that the recognition of such reactions tends to minimize the paralyzing effects on the individual. A soldier's knowledge beforehand that he will, in all likelihood, have such feelings, and that they are normal, serve the purpose of detoxifying them. This concept is of importance in relation to training and preparation for combat.

The Division, A, studied had experienced combat, participating in a Pacific campaign, and during this period reported relatively few neuropsychiatric casualties. As compared to another Division, B, during the same campaign, it reported only approximately one-tenth as many psychiatric casualties. In the first Division A, medical officers evolved the following technique with soldiers who broke down. The men were returned to duty after some hours rest, usually in the battalion aid station. The main emphasis was to return the soldier to duty at the earliest possible moment; as one medical officer put it, "You can make a soldier fight by sticking a bayonet up his —," not literally, of course. There seemed to be no other type of therapy attempted.

This Division A successfully accomplished its mission. The other Division B, in the same campaign, reported some ten times the number of psychiatric patients, practically all of whom were evacuated and lost to the Division (B). It is of interest that a similar attitude study in this other Division B revealed that some 18 per cent of those veterans felt that they were in good health, as compared to the 7 per cent in the unit under discussion. This difference is statistically significant.

The soldiers answered Question number 2 as to physical toughness before the first battle as follows:

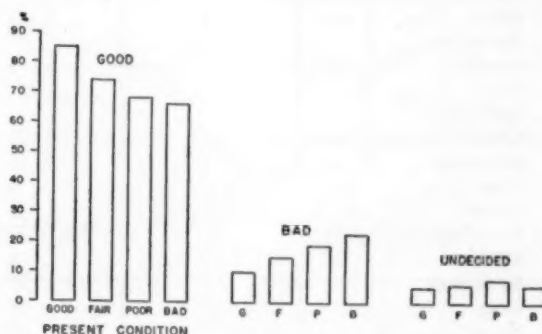
"Do you think you were in tough enough physical condition at the time you went into your first battle?"

	All men, per cent
Yes (good) .....	70
No (bad) .....	18
Undecided .....	12

Those who answered that they were in the following physical condition at the time of the survey, rated themselves as to physical condition before the first combat thus (each group as 100%):

	Good, per cent	Fair, per cent	Poor, per cent	Bad, per cent
Yes (good) .....	85	74	68	66
No (bad) .....	10	15	19	23
Undecided .....	5	11	13	11

It seems that the majority of all soldiers considered themselves in retrospect to have been in good physical condition before engaging in combat. (Graph 1.)



GRAPH 1. Self evaluation of pre-battle health.

There were 10 sub-sections to Question number 3. "How often have you had these reactions under fire?" They rated themselves as follows at the time of questionnaire, (see next page).

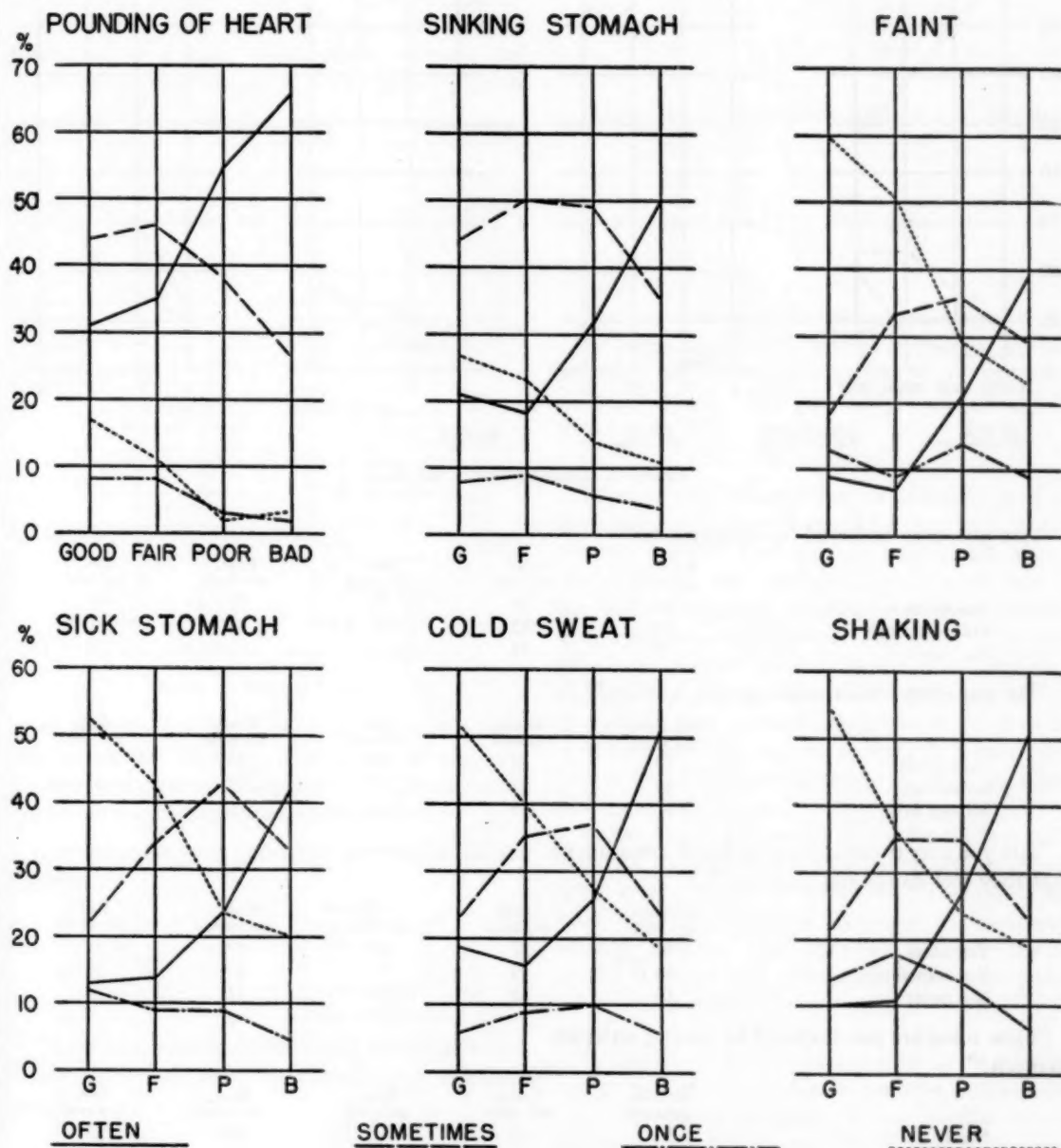
An analysis of the answers reveals that under fire the two groups that answered "poor" and "bad" to the first question presented the largest percentage of symptoms that might be attributed to fear or anxiety. The contrasts between the "good" group and the "poor" and "bad" groups were startling. The latter group predominated in all categories of the second question. (Graphs 2 and 3.) The conclusion to be drawn from the answers is that those soldiers who now felt in poor health had exhibited, under combat conditions, a preponderance of psychosomatic manifestations characteristic of fear and anxiety.

A group of questions which dealt with the present feelings of the men as contrasted to feelings under fire is revealing.

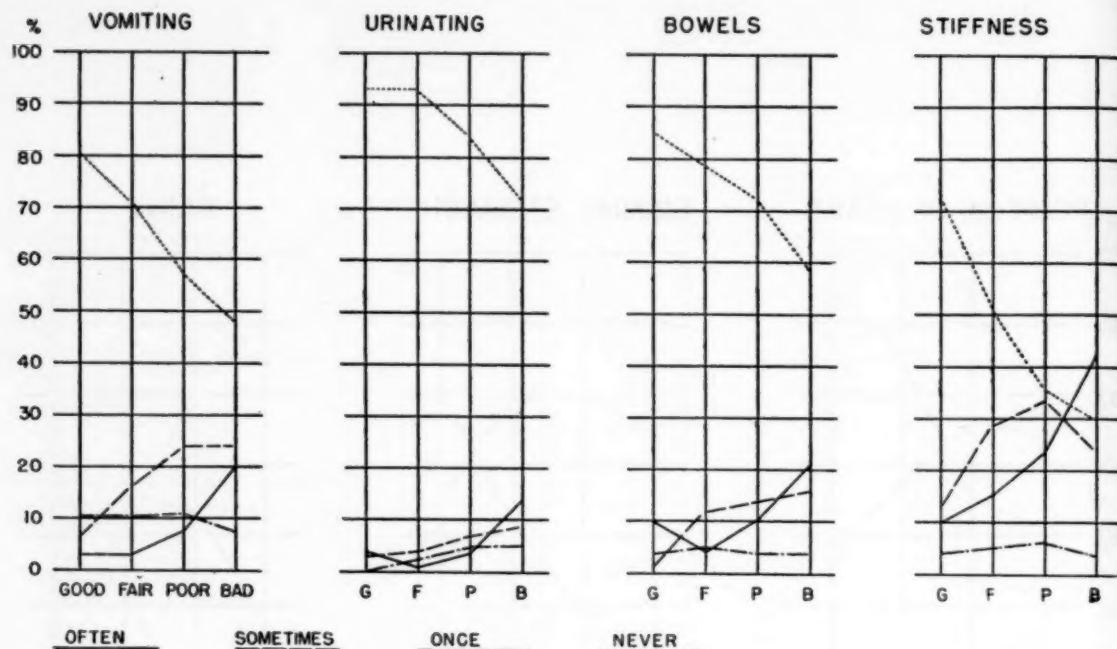


	All men, per cent	Good, per cent	Fair, per cent	Poor, per cent	Bad, per cent
a. Violent pounding of the heart?					
Often	48	31	35	55	66
Sometimes	39	44	46	38	26
Once	5	8	8	3	2
Never	8	17	11	4	6
b. Sinking feeling in the stomach?					
Often	30	21	18	31	50
Sometimes	46	44	50	49	35
Once	7	8	9	6	4
Never	17	27	23	14	11
c. Feeling of weakness or feeling faint?					
Often	19	9	7	21	39
Sometimes	33	18	33	36	29
Once	11	13	9	14	9
Never	37	60	51	29	23
d. Feeling sick at the stomach?					
Often	23	13	14	24	42
Sometimes	37	22	34	43	33
Once	9	12	9	9	5
Never	31	53	43	24	20
e. Cold sweat?					
Often	27	19	16	26	51
Sometimes	33	23	35	37	24
Once	9	6	9	10	6
Never	31	52	40	27	19
f. Vomiting?					
Often	8	3	3	8	20
Sometimes	20	6	16	24	24
Once	10	10	10	11	8
Never	62	81	71	57	48
g. Shaking or trembling all over?					
Often	26	10	11	27	51
Sometimes	32	21	35	35	23
Once	14	14	18	14	7
Never	28	55	36	24	19
h. Urinating in pants?					
Often	5	4	1	4	14
Sometimes	6	3	4	7	9
Once	4	2	2	5	5
Never	85	93	93	84	72
i. Losing control of bowels?					
Often	10	10	4	10	21
Sometimes	13	1	12	14	16
Once	5	4	5	4	4
Never	72	85	79	72	59
j. Feeling of stiffness?					
Often	23	10	15	24	42
Sometimes	29	13	29	34	24
Once	5	4	5	6	4
Never	43	73	51	36	30

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GRAPH 2. Reactions under fire 1.



GRAPH 3. Reactions under fire 2.

"Are you ever bothered by nervousness?"

	All men, per cent	Good, per cent	Fair, per cent	Poor, per cent	Bad, per cent
Yes, often	44	20	30	50	67
Yes, sometimes	49	52	61	46	30
No, never	7	28	9	4	3

"Do you often have trouble getting to sleep?"

	All men, per cent	Good, per cent	Fair, per cent	Poor, per cent	Bad, per cent
Very often	40	24	27	43	62
Sometimes	49	51	57	51	31
Almost never	11	25	16	6	7

"Are you ever troubled by your hands sweating so that they feel damp and clammy?"

	All men, per cent	Good, per cent	Fair, per cent	Poor, per cent	Bad, per cent
Yes, often	45	27	34	49	61
Yes, sometimes	40	45	45	40	31
No, never	15	28	21	11	8

"How often are you bothered by having an upset stomach?"

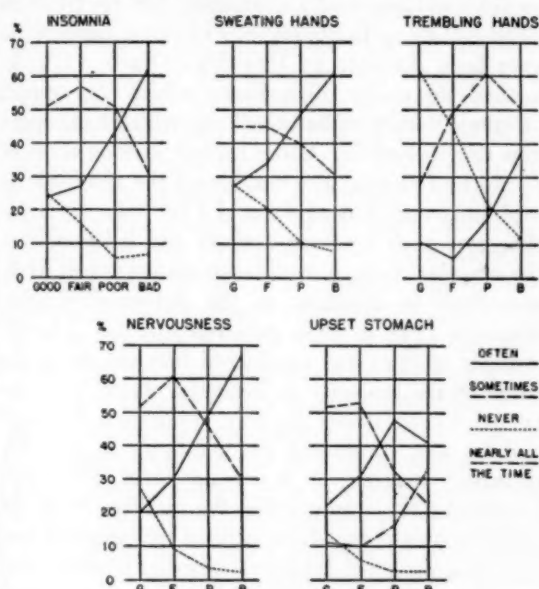
	All men, per cent	Good, per cent	Fair, per cent	Poor, per cent	Bad, per cent
Nearly all the time	17	12	10	16	33
Pretty often	40	22	31	48	41
Not very often	38	52	53	33	23
Never	5	14	6	3	3

"Do your hands tremble enough to bother you?"

	All men, per cent	Good, per cent	Fair, per cent	Poor, per cent	Bad, per cent
Yes, often	17	11	6	17	37
Yes, sometimes	53	27	49	61	51
No, never	30	62	45	22	12



Of special interest are the answers to the question regarding nervousness. Fifty per cent of the "poor" and 67 per cent of the "bad," as contrasted to only 20 per cent of the "good" group, state that they are bothered by nervousness. The same relative ratio holds for sleeplessness, damp and clammy hands and, to a lesser degree, upset stomach and trembling hands. (Graph 4.) The percentages in



GRAPH 4. Present feelings.

these answers are rather strikingly like the ones obtained in similar areas in a survey of 613 psychiatric patients as compared to 3729 normals studied in the United States as quoted below.

"Do you have any particular physical or health problem?"

N.P., per cent	Normal, per cent
82	35 Yes
8	57 No
7	6 Undecided
3	2 No answer

"Have you ever been bothered by shortness of breath when you were not exercising or working hard?"

N.P., per cent	Normal, per cent
39	12 Yes, often
41	30 Yes, sometimes
19	57 No, never
1	1 No answer

"Are you ever troubled by your hands sweating so that they feel damp and clammy?"

N.P., per cent	Normal, per cent
56	18 Yes, often
33	43 Yes, sometimes
10	39 No, never
1	.. No answer

"How often are you bothered by having an upset stomach?"

N.P., per cent	Normal, per cent
20	4 Nearly all the time
37	13 Pretty often
37	59 Not very often
5	22 Never
1	1 No answer

"Have you ever been troubled by cold sweats?"

N.P., per cent	Normal, per cent
25	5 Yes, often
53	37 Yes, a few times
20	58 No, never
2	2 No answer

(Graph 3.)

This indicates that the symptoms presented by the "poor" and "bad" groups are more or less identical with the ones experienced by neuropsychiatric patients. The percentages are almost the same.

#### COMMENTS

It would seem that some of the factors underlying the startling finding that only 7 per cent of the veterans felt that they were in good health after a period of rest and rehabilitation can be related to the presence of many psychosomatic manifestations of anxiety or psychoneurotic difficulties. The contrast with another division in the same campaign that suffered a great many neuropsychiatric casualties which were evacuated and lost to the division is statistically striking. It appears as if the attrition of evacuation during combat acted as an informal screening process.

In the Division A under study, the soldiers were returned to duty under pressure of combat conditions with little or no treatment. The result has been that the failure to recognize the neuropsychiatric problem had left this division heavily seeded with soldiers presenting anxiety symptoms which were masked under various feelings of ill health.

It may be of interest to speculate as to whether recognition of the psychiatric problem and an adequate treatment program during combat would not have served the purpose of minimizing the subsequent attitudes of the soldiers. There are some indications from subsequent campaigns where fairly adequate treatment programs, built on sound therapeutic principles and a frank facing of the psychiatric problems, achieved this result.

There is further significance in the findings for the civilian physician in that they emphasize again that psychosomatic manifestations of anxiety and neurotic tension may be clinically presented by the individual as somatic complaints of "ill health."

## CENTRAL ANGIOSPASTIC RETINOPATHY

### A PSYCHOSOMATIC STUDY OF ITS OCCURRENCE IN MILITARY PERSONNEL \* †

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The occurrence of arteriolar spasm in retinal blood vessels of young adult males otherwise free of any type of vascular disease is a not infrequent ophthalmological observation. When the blood supply to the macula is reduced, this area of the retina becomes quickly edematous and undergoes a series of changes which frequently end in degeneration of macular cells and a permanent central scotoma in the visual field. Often an actual "hole" in the macula may be seen on ophthalmoscopic examination, through which the underlying choroid is visible. These characteristic retinal changes, observed by ophthalmologists for many years and described by them under a variety of titles and causes, have only recently been shown to be the result of ischemia produced by the spastic contraction of retinal arterioles supplying the macular area (9).

The diversity of opinion among earlier observers as to the etiology of this condition is in itself proof that its causation was not sufficiently understood. It is well known that arteriolar constriction or even closure of retinal vessels may occur in conditions such as toxemia of pregnancy, arterial hypertension, Buerger's disease, or Raynaud's disease. The presence of retinal spasm as a "visible sign" in patients with multiple sclerosis has recently been pointed out by Brickner (4). Its occurrence, however, among young adult men otherwise free of hypertension or vascular disease of any kind is not generally appreciated; in fact the English literature reveals little concerning this condition. Recent psychosomatic studies have, however, shed new light on our understanding of many different forms of peripheral vasoneuropathy. These neurophysiological mechanisms will be considered later.

A search into the older literature on the subject of disturbances of macular vision in young adults reveals many interesting reports which are similar

to the condition under discussion, but no common denominator as to the etiology of this condition has ever been derived. In 1866 Van Graefe (17) described an ocular disturbance which he termed "Central Recurrent Retinitis" and which he thought was due to syphilis. Other reports include those of E. Fuchs (8) who also considered the condition as syphilitic, and that of Oguchi (14) who reviewed the cases of 6 Japanese authors and believed that the macular changes were inflammatory; most likely secondary to infection in the paranasal sinuses. Kitahara (13) in 1936 gathered together a larger number of cases and considered tuberculosis as the cause in the majority of instances. Guist (10) reported 5 cases under the title "Preretinal Edema," and he, too, considered the condition as probably of tuberculous origin. It was not until 1937 when Horniker (12), approaching the problem from the vascular standpoint, demonstrated by means of special examination of peripheral vascular response that young individuals who exhibited spasm of retinal arterioles likewise showed signs of general "vasomotor instability." He concluded that the entire picture was best explained as the result of ischemia produced by functional narrowing of the finer retinal arterioles and suggested the name "Central Angiospastic Retinitis" for this group. As precipitating factors Horniker emphasized psychic disturbances, exposure to cold and excessive light. He expressed the belief that the condition is more common than is generally believed, and was of the opinion that both syphilis and tuberculosis, when they exist, act only as contributing factors in persons who, for reasons unknown, showed signs of what he termed a "vasoneurotic diathesis." His rationale of treatment consisted in the administration of various antispasmodic and sedative drugs which included atropine, barbiturates and opium derivatives, all of which afforded some temporary relief of the vascular spasm during the early stages of its appearance.

In 1939, Gifford and Marquardt (9), in the first clinical investigative report on this subject in the English language, demonstrated that spasm of retinal arterioles, with its resultant ischemia, was the underlying physiological disturbance directly

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responsible for the subsequent macular degeneration. They replaced the name "Central Angiospastic Retinitis," as put forth by Horniker, by the term "Central Angiospastic Retinopathy," inasmuch as the condition was shown to be the result of ischemia rather than of inflammatory origin. Following the earlier work of Horniker, they devised special tests to determine variations in peripheral vasomotor response in patients who exhibited signs of retinal angiospasm. One of their experiments consisted in keeping patients in a draft-free room for one hour, following which they measured the temperature of the extremities, which in normal individuals did not vary more than  $4^{\circ}$  to  $6^{\circ}$  C. from that of the abdomen. In the investigation of patients with macular retinopathy they discovered a definite decrease in the temperature of the lower extremities, which spoke for a deficiency of arterial blood and was indicative of peripheral angiospasm. In these individuals, it was also found that blocking of the tibial nerve with a 2 per cent solution of procaine hydrochloride caused relaxation of the arterial walls with an increase in skin temperature distal to the block. Such blocking caused a rise of  $2^{\circ}$  C. in normal extremities, whereas in persons with an angiospastic state it was found to be considerably higher. Gifford and Marquardt studied the peripheral circulation also by means of oscillometry and capillary microscopy and were able by this method likewise to demonstrate the presence of peripheral vascular spasm in this same group. As a result of this work, it became apparent that patients with retinal angiospasm were subject to peripheral angiospasm generally. The retinopathy in these cases was regarded as an ocular manifestation of the generalized vasospastic state. To quote from Gifford and Marquardt:

"Reasons are given for believing that this and a group of similar conditions described under various names are due to spasm of smaller retinal arterioles or capillaries, with resulting ischemia and edema of the retina especially in the macular portion."

In suggesting treatment of such cases, they stressed "the importance of avoidance of exposure to cold, abstinence from smoking and as much freedom from psychic trauma, worry and excitement as is possible." They conclude their treatise with the following general advice: "... a rational regulation of hygiene and habits must be continued for a considerable time in such cases, the need for treatment being determined by repeated examination of the peripheral circulation." Gifford and Marquardt's concept of this condition represents the

present day view in ophthalmological literature concerning these cases.

*Why should young individuals so affected, but otherwise free of vascular disease, exhibit a generalized vasospastic state?* This is an important question and upon its answer much of our understanding of this condition depends. I shall present, in this paper, a psychosomatic formulation which I hope may be helpful in unifying the diversity of opinion which has existed in regard to the nature and nosology of this type of ocular disturbance.

While in service with the Navy, and during the course of routine ophthalmological and neuropsychiatric examination of large groups of marines recently returned from combat in the Pacific, I was impressed with the remarkably high incidence of degenerative macular lesions among these men, most of whom presented themselves for examination because of disturbed vision. Reports of rather large numbers of similar cases were beginning to appear in recent literature and the undue prevalence of this condition in World War II had already been noted by several observers. In July, 1944, Brinckerhoff (5) under the title "Inflammation of the macula lutea" reported the occurrence of this condition among naval personnel to be "not as uncommon as might be expected" and mentioned that he had encountered such cases among personnel from the submarine service, deck services, shore-based maintenance units, and communication offices. He cited a single case of a 24-year-old seaman in whom the general physical examination was negative except that "there was an anxiety of speech and copious perspiration." Ophthalmological examination revealed impaired vision in the left eye which was due to a central scotoma "roughly circular in shape extending 2 degrees in all directions from the point of fixation when measured by a 2 mm. white object at 1 m. distance." In discussing the possible etiology of such cases, Brinckerhoff felt that "toxins" may be an etiologic factor and recommended active treatment to eradicate foci of infection.

In another more extensive report, entitled "Central macular chorioretinitis in naval personnel," Borley and his co-workers reported a group of 31 young adult males among naval personnel having central macular lesions. These were observed at U.S. Naval Hospital, Oakland, California, from July, 1942, to November, 1943. In addition to this series, the authors stated that "15 to 20 additional patients with similar lesions were seen at the U.S. Naval Hospital, Mare Island, California, during the early part of 1942" (3). In all of these cases, the



lesion was limited to the central macular area of the retina, with involvement of the fovea and perifoveal region. It was thought that some infectious agent or exposure to bright light might be the basis for its occurrence in such great numbers. In an endeavor to discover an infectious agent in this group of patients, Borley and his associates performed several animal experiments which consisted of the inoculation of human spinal fluid from affected persons into the eye, brain and peritoneal cavity of guinea pigs, with controls using spinal fluid from unaffected persons. In several animals so inoculated, an acute iridocyclitis developed rapidly in twenty-four to twenty-eight hours following inoculation, and subsequent microscopic sections of the eyes of the three guinea pigs so affected showed severe round cell infiltration of the iris and ciliary body, indicative of severe iridocyclitis. The authors felt that this was suggestive of an infectious cause, but that too few experiments were done to allow definite conclusions. As for psychic factors, Borley mentioned that "these factors may have been operative in some but not all of the patients comprising this series."

In a carefully prepared treatise entitled "Ocular manifestations of psychosomatic disorders," Harrington (11) studied a large number of such cases, also among Naval personnel, and emphasized the importance of psychic factors in this as well as other types of ocular disturbances. Except for the work of Harrington (which, interestingly enough, was being carried on simultaneously and independently of the present study), no combined psychiatric studies (or endeavor to determine the existence of anxiety-producing factors at the time of onset of ocular symptoms) were done by any of the authors reporting on such patients. Psychosomatic formulations could therefore not be made from these studies. It is regrettable indeed that the majority of present-day medical reports do not include satisfactory estimation of psychosomatic factors. In order for such studies to be made possible, coordinated contributions by internists, ophthalmologists, psychiatrists, and other specialists are necessary.

The following cases of macular retinopathy are presented as psychosomatic studies. Ophthalmologically, they are essentially similar to the group of patients described by the various authors mentioned above. It will be noted that, in each case, fear and anxiety induced by combat played a prominent role in the patient's life, especially at the time the ocular symptoms first developed.

# CASE REPORTS

**CASE 1. (T.J.)** Age: 27. U. S. Marine Corps Reserve, Private first class.

**Chief Complaint.** "Blurred vision."

**Present Illness.** Following combat on Iwo Jima, during which operation patient states that he was quite tense, nervous and jittery, this 27-year-old Marine Corps Private first noted disturbed vision in the right eye.

**Past History.** Patient had always been a stable, well-integrated and well adjusted individual, and there was no evidence of neuropathic traits prior to his entry in the Service. He stated that as soon as he was placed in the combat area he became and remained extremely apprehensive, tremulous and frightened. He was never wounded and was not exposed to blast concussion. He stated that his hands were constantly wet with perspiration and that he had "butterflies in the stomach" while in the front lines.

**Physical Examination** (two months after return from combat). General physical examination was negative. Blood pressure 120/80. Pulse 72. No signs of transient tachycardia, hypertension or hyperhidrosis. Neurological examination was negative.

**Psychiatric Examination.** At present time (two months following combat) patient is quite calm and relaxed and exhibits no signs of increased nervous tension or autonomic overactivity. He states that for several weeks following his removal from the front lines he would startle easily and was very jumpy. He also had battle dreams and would awaken in a frightened state. After a month's rest at Pearl Harbor all of these symptoms disappeared.

Aside from the ocular disturbance in the right eye, six weeks following combat this patient had no complaints and exhibited no significant neuropsychiatric features.

**Ophthalmological Examination.\*** Visual acuity, OD 20/20, OS 20/20. The right macula shows a deep cherry red area surrounding the fovea. There are no signs of inflammatory changes. There is a well-defined (see figure 1) central scotoma in the right visual field. The retinal vessels appear normal. The left fundus is normal.

**CASE 2. (P.J.)** Age: 21. U. S. Marine Corps Sergeant.

**Chief Complaint.** "Blind Spot" in both eyes.

**Present Illness.** This 21-year-old U. S. Marine Corps Sergeant enjoyed good health all of his life.

\*I am indebted to Lt. Comdr. Gerald F. Joseph (M.C.) U.S.N.R. for the ophthalmological examination of these cases.

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During July, 1944, while stationed at Maui, he first noticed a "bright spot" in the central portion of the visual field of the right eye. A few weeks later he developed a similar disturbance in the left eye. He states that when he looked straight at an object he could not see it, and had to look away from it in order to be able to see it. This became progressively worse over a period of several months and since his return to the United States it has remained about the same.

**Family and Marital History.** Not remarkable.

**Past and Military History.** Finished two years of high school. Then worked and had odd jobs for about a year until he joined the Marines. Patient states that he has always been a "conscientious" person who was prone to develop anxiety and increased tension during situations of emotional anguish or frustration. He has always had a strong sense of duty and responsibility.

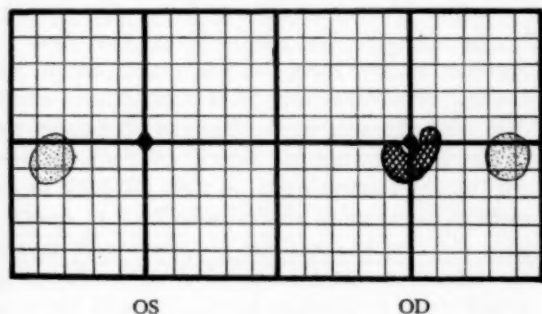


FIGURE 1. (Case 1.) Visual fields taken with a 1 mm. test object at 1 m. distance.

**Ophthalmological Examination.** Visual Acuity, O.S. 15/20, O.D. 15/20. The retinal vessels are normal. Both maculae present similar changes. The foveal reflexes are absent and definite "holing" is present, exposing the underlying choroid in the macular area. These are discreet, punched-out lesions and there are no signs of regional inflammation or retinitis. Bilateral central scotomata corresponding to the macular lesions are demonstrated in the visual fields. (See figure 2.)

**CASE 3.** (W.C.) Age: 22. U. S. Marine Corps Reserve, Private first class.

**Chief Complaint.** "Sweaty hands and blurred vision."

**Present Illness.** The patient had a total of thirty-two months of service, of which twenty months were spent overseas. He states that after being one month in combat on Saipan he first noted visual difficulty. This was associated with bitemporal, throb-

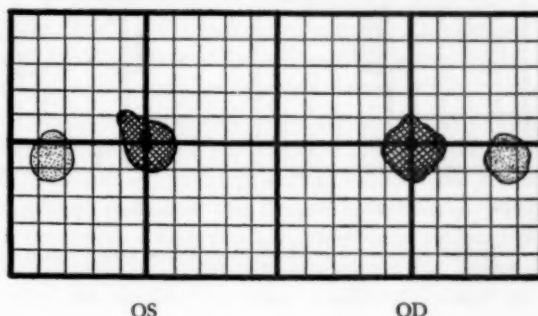


FIGURE 2. (Case 2.) Visual fields taken with a 1 mm. test object at 1 m. distance.

While working as a M.P. he developed the visual disturbance described above. He states that he could not stand being "cooped up" and although he performed his duties satisfactorily, the monotony of the life kept him under a nervous tension. He believes that if he had been in combat he would have felt much better, as the frustration of not being able to fight maintained his nervous tension.

**Psychiatric Examination.** Patient is an alert, intelligent, sensitive individual with definite evidence of increased nervous tension and autonomic overactivity. Palms are moist and there is a fine digital tremor. Patient expressed some feeling of guilt about never having been in combat. These feelings were enhanced shortly after his best friend had been killed at Saipan while patient was retained in Hawaii as a M.P. It was shortly after this he first noted the "bright spot" in the right eye.

Since V-J Day and his return to the United States and recent marriage, the patient states the symptoms described above have improved.

bing headache, which he had never experienced before and which lasted far into the night. These headaches persisted for about two weeks, then he noticed blurring of objects when he looked directly at them and describes that he "was not able to see in the middle, but could see on each side."

**Past and Family History.** Patient was the second of nine siblings of a middle class family. His father suffered with chronic dyspepsia and was "high strung," but in general the patient's early life had been quite normal. He finished ten and one-half years of school and then worked as a trucker and contractor for two years before joining the Marine Corps.

**Physical Examination.** Blood Pressure 120/76. Pulse 86. There was definite evidence of vasomotor instability, hyperhidrosis of hands, fine digital tremor, and transient tachycardia. The deep reflexes were generally brisk.

**Psychiatric Examination.** The patient was an alert, intelligent, sensitive individual, with obvious

signs of increased nervous tension and autonomic overactivity. Patient stated that he still had frequent throbbing headaches and complained of a "black spot" in the vision of both eyes. There was no history of injury, blast concussion or exposure to excessive light.

**Ophthalmological Examination.** Visual Acuity, O.D. 15/20, OS 18/20. Examination of the fundi revealed absence of the foveal reflex and definite crater formation with "holes" in the maculae of both eyes. This was well defined and presented a sharp, punched-out appearance through which the choroid was plainly seen. There were no signs of surrounding retinitis and the retinal vessels appeared quite normal. Bilateral central and paracentral scotomata were present, (See figure 3.)

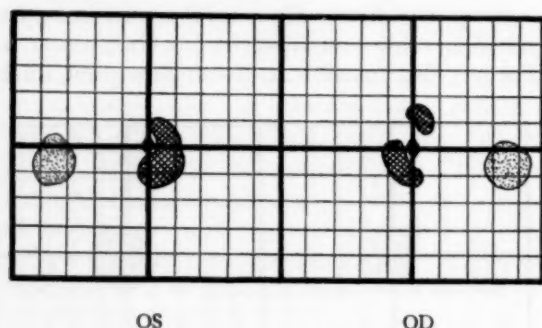


FIGURE 3. (Case 3.) Visual fields taken with a 1 mm. object at 1 m. distance.

**CASE 4. (J.McC.)** Age: 27. U. S. Marine Corps Reserve, Private first class.

**History of Present Illness** (as obtained from Health Record). This 27-year-old U. S. Marine Corps Reserve, Private first class was admitted to the sick list on June 5, 1945, from the front lines following his being knocked unconscious from the explosion of a mortar shell. The duration of his unconsciousness was not known.

**Physical examination** (at that time) revealed a non-tender, swollen area over the right parieto-occipital area of the skull. There was ecchymosis of the lower left eyelid and two abrasions on the forehead, one over the left cheek and over the left deltoid muscle. Neurological examination was negative. There were no remarkable mental findings except for slowness of thinking. The diagnosis was "cerebral concussion." The history and findings as excerpted from the record were as follows: "About four months prior to the above injury, while awaiting his removal to the combat zone, patient noticed that he was unable to distinguish the discs on the rifle range. About three months later, while

aboard ship en route to Guam (April, 1944) he first noted that when he looked at a small object, he could not see it with his left eye. There appeared to be a 'blank spot' within which objects could not be seen. This has persisted to the present time. He has observed no change of vision as a result of his recent concussion."

**Ophthalmological examination** on June 6, 1945, was as follows: Visual acuity. O.D. 15/20, O.S. 15/20. Media clear. There was a definite change in the foveal reflex and the area immediately surrounding it appeared slightly elevated. Peripheral fields (confrontation) were full. A central scotoma was "easily" demonstrated at a distance of 1 meter; its exact size was not determined as no tangent screen was available, but it was "at least 5 mm. in diameter." Patient was evacuated to U.S.N.H., Aiea Heights, and on July 15, 1945, was transferred to the United States for further observation and treatment.

**Further History of Present Illness** (as obtained by the author). The patient stated that since his exposure to the blast, he has undergone a pronounced personality change. He reluctantly admits that while he was in the hospital at Saipan, immediately following his injury, he disliked every one, would become mute or turn his back to the medical officer or to anyone who tried to question him, and that he could not get along with anyone. He refused to eat for several days; he hoped he would starve to death so his family could get some insurance. He suffered from disturbed sleep and had so many nightmares that he became afraid to go to sleep. He was obviously depressed, irritable and moody. He stated that he had a "legitimate blind spot" in the center of his left eye since about February, 1945, and feared that he might go blind. He complained of "pounding" and a feeling of "tightness" in the head as if he had a "million little wires and steel things in it." He continued having nightmares for several months thereafter, and would wake up sweating and shaky.

**Family History.** Father, age 63, has diabetes. Mother, age 53, has always been a hard worker, but is nervous and easily upset and has a "nervous stomach." Five brothers and four sisters living—one brother is an alcoholic and another is physically undeveloped, though his "mind is good."

**Marital History.** Has been happily married for five years. Has two children.

**Past History.** No serious illnesses or injuries prior to the above. He states that he has always been a slow, patient, even-tempered type of individual. Completed high school and was in CCC Camp for

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about thirteen months where he studied forestry and liked it very much. Made a good financial adjustment and has always been very conscientious about his work.

**Psychiatric Examination.** The patient is an anxious, friendly individual, who responds rather slowly. He exhibits moderate blocking when asked about his family or combat experiences. He appears disinterested in his companions and surroundings, but is well oriented in all spheres and there are no psychotic manifestations. He states that the blast did not make his eye trouble any worse, but feels that he has undergone a marked change in personality as a result of the concussion. From a calm, quiet individual he became a tense, nervous, tremulous, and emotionally unstable person. However, during the past month, since his return to the United States, he has shown definite signs of improvement.

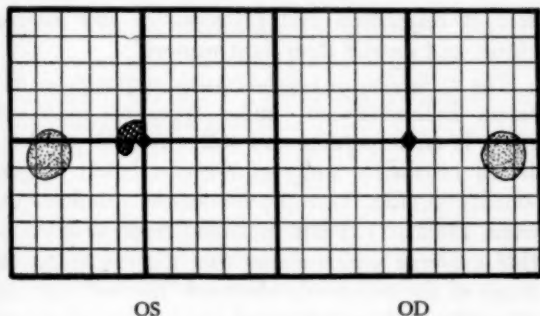


FIGURE 4. (Case 4.) Visual fields taken with a 1 mm. object at 1 m. distance.

**Ophthalmological examination** at the present time shows the following: Vision is 20/20 in both eyes, but this can only be accomplished by allowing the patient to look a bit to the side of the object letter. Fundusoscopic examination of the left eye revealed a cherry red area, 1/10 disc diameter wide, and of roughly oval shape, just at the lower nasal margin of the fovea of the macula. This area was slightly depressed below the surrounding retina. A central scotoma was outlined which corresponded to the involved area. (See figure 4.) The retinal vessels were normal and the right fundus was negative.

#### COMMENT

From these case histories, it is apparent that intense anxiety played an important role at the time of development of ocular symptoms. The somatic effects of anxiety (or fear) have been studied by many investigators and are well known. Anxiety, for purpose of this discussion, may be regarded as similar in its somatic effects to fear. Physiologically,

the usually observed bodily reactions to fear include the following changes: rapid heart beat, increase in adrenalin output, acceleration of carbohydrate metabolism, and vasoconstriction especially in the gastro-intestinal tract. By right of these physiological alterations the organism is held in a state of increased alertness, and the individual (especially during combat) is thus kept prepared to cope with whatever the threat may be. Neuropsychologically, fear or anxiety initiate disturbances of higher cerebral centers, which, via hypothalamic pathways, produce changes in the sympathetic nervous system, giving rise to transient or maintained arteriolar constriction. The duration of this response depends upon the intensity and persistence of the provoking stimulus. Hyperhidrosis, tremor and peripheral pallor also characterize this reaction. The frequently observed blanching of the frightened soldier or individual is a common, every-day experience. The cardiovascular and gastrointestinal systems are especially sensitive to emotional stress of this type. Tensional states with evidence of autonomic overactivity are the most frequently observed disturbances among military personnel. These fear or anxiety states, when unduly prolonged, either because of maladjustment to military life, protracted combat or longstanding unresolved psychic conflicts, constitute the dynamic core about which subsequent psychosomatic reactions characteristically develop. Studies by competent workers leave no doubt that such conflictual states contribute in a great measure to the subsequent development of arterial hypertension, peptic ulcer, angina pectoris, and other clinical entities. Alexander (1) and his co-workers, in long-term studies of patients with essential hypertension, have shown a causal relationship of the hypertensive state and chronic anxiety.

In a recently published monograph by Binger (2) and his associates, evidence of the existence of longstanding personality disorders were noted in patients who ultimately developed arterial hypertension. Young adults were studied in whom early evidence of hypertension was present, without signs of arteriosclerotic changes. In this study the more intimate aspects of the personality were uncovered by psychiatric interviews, and, without exception, these patients were found to be suffering from a diversity of psychoneurotic traits. Binger *et al.* concluded that since the personality traits of these patients antedated the hypertension by many years, the neurotic manifestations were not the result of hypertension, but rather that the psychological disorder and the hypertension "represent reflections of a basic

failure long foreshadowed, and may constitute different aspects of the same fundamental pathological process."

In a comparable investigation done by the British workers, which also concerns itself with vasomotor effects resulting from emotional factors, Osborn *et al.* (15) present a study of "vasoneuropathic" changes in soldiers due to chilling incurred during the early invasion of Europe. Following exposure to ice and snow, or after being subjected to conditions of cold in steel vehicles, symptoms of peripheral vasoneuropathy developed. These authors found that there were two groups: In the first group the onset of symptoms was sudden and recovery was slow. Simple swelling, even without blistering or gangrene, often took four weeks or longer before normal sensation was achieved. The return of sensation was often patchy, the areas of pressure and the toes being the last to recover. Nearly all of these men had a history of sweaty hands and feet and the predominant type of personality seemed fairly consistent with that found in other "vasomotor" disorders. All of the patients in group one gave a history of hyperhidrosis in civil life and all presented what the authors have aptly termed the "perspiratory personality." Many other psychiatric symptoms, as well as acute domestic problems, were in evidence in this group. In the second group the men had been subjected to the same operational conditions, but the onset of symptoms was slow and the vasoneuropathy in these men was comparatively mild; there was no obvious common type factor, and a history of perspiring hands and feet was not notable. The men in this group gave little indication of psychiatric symptoms. The findings of Osborne *et al.* show the relationship of the foot lesions to personality factors and likewise point out the importance of emotional factors in the study of the etiology and treatment of peripheral vasoneuropathy.

Wolff (18), in an extraordinary study of gastric function, has presented visible proof of the immediate effects of emotions on the vascular state of the stomach.

Clinical investigations such as have been cited above and which are concerned with the dynamic effects of psychic stimuli upon end organs are no longer new; such studies, both experimental and clinical, have already developed an extensive body of knowledge which in itself attests to the soundness of its methodology.

In the author's opinion, spasm of retinal blood vessels is nosologically comparable in mechanism to:

(1) the disturbance of gastric function resulting from emotional conflict;

(2) the occurrence of renal ischemia during states of anxiety (16);

(3) the provocation of attacks of angina pectoris by emotional upset;

(4) the many vasoconstrictive manifestations of migraine and other forms of peripheral vasoneuropathy.

All of these conditions, though diverse in their clinical manifestations, represent analogous examples of emotionally induced vasoconstrictive phenomena. In the case of retinal angiospasm, the resultant effects are readily discernible because of the extraordinary physiological vulnerability of the macula to reduction in its blood supply. Disturbance of function of the highly sensitive ganglion cells subserving central vision is quick to occur following circulatory interference to these structures. Duke-Elder (6), in discussing the metabolic requirements of the retina, states: "The retina has the greatest rate of respiration and glycolysis of any *normal* tissue, and greater than most tumors."

The variability of psychosomatic responses of different individuals to similar types of emotional stress is an important and still unsolved problem. In an exhaustive study of the correlation of personality profiles and psychosomatic reaction patterns, Dunbar (7) has presented impressive statistical evidence which shows that the occurrence of many of the commonly observed "disease" entities, especially cardiovascular and gastrointestinal disturbances, can categorically be predetermined by analysis of the individual "personality profile."

*The macular disturbances of vision described in this paper are presented as still another clinical example which nosologically should be included in the same category as the many other psychosomatic conditions mentioned above.* A fuller interpretation of the important investigations of Horniker and Gifford concerning this condition can now be made, and some answer as to why these young men exhibit generalized vasospasm is now forthcoming. This is of obvious importance, not only in establishing a clear concept of the etiology of this form of angiospastic retinopathy, but is essential also in the treatment of such cases, especially in its early stages. Cognizance of emotional factors and an attempt at resolution of the existing anxiety state should be one of the therapeutic aims in treating such patients. The use of antispasmodic drugs, obviously beneficial in an adjunctive way, constitutes but a small part of the entire régime of therapy. One must realize that the pharmacological action of drugs will not in itself resolve symptoms or somatic disturbances which have been psychologically produced. A

thorough psychosomatic approach, as is advocated, may not always be feasible and, in many cases, where irreversible changes have occurred, may no longer be helpful. In some cases of combat-induced anxiety, removal of the soldier from the front lines may in itself be the only measure necessary to restore him to his formerly normal stage (19). Ocular changes, such as have been described, may unfortunately remain as a permanent visual defect.

The prognosis of ocular disturbances of this type among civilians should offer more promise. Anxiety-producing factors during peace time are of a different order and may be regarded in a somewhat different frame of reference. The psychic disturbances of civilian life are as a rule slowly engendered and usually are the result of unresolved, unconscious conflicts which date back to early life. "Neurotic" individuals whose personality profiles would indicate subsequent development of vasospastic phenomena should be allowed the opportunity of a "preventive" psychotherapy in which personality defects or neurotic conflicts are dealt with, though these may not, at the time, be seemingly related in any causal way to the presenting somatic disturbance, ocular or otherwise.

#### SUMMARY

Macular disturbances of vision have been noted with increasing prevalence among young adult military personnel, otherwise free of disease. Early reports and recent investigations relating to the etiology of this condition are reviewed and experimental evidence of previous workers demonstrating the angiospastic basis for this form of retinopathy is cited. Spasm of retinal arterioles represents focal manifestations of an existing peripheral vasospastic state and the condition is nosologically comparable to many other forms of peripheral vasoneuropathy which appear in situations of emotional stress. Illustrative cases of Marines recently returned from combat are presented as psychosomatic studies. An acute anxiety state engendered by the military situation, usually combat, was found to be a common factor in each case and the psychophysiological mechanism of anxiety (or fear) in producing this

form of ocular disturbance is discussed. The importance of emotional and "personality type" factors in the evaluation and treatment of this, as well as other forms of similarly induced vasoneuropathic states, are emphasized and a nosological reorientation to the approach and management of this ophthalmological condition is put forth.

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## THE PHANTOM LIMB \*

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The phenomenon of the phantom limb is of interest to the surgeon, the psychiatrist and the psychologist, and the phenomenon has been studied extensively. In some amputees the pain in the phantom extremity is severe, demanding relief. There is an abundant literature on the subject of phantom phenomenon, most of which discusses either the origin of the sensations or the management of the patients who complain of severe pain. The etiological theories may be divided into two groups: first, that the sensations are due to some peripheral stimulation at the nerve stump, either anoxic due to scarring, neuroma formation, pinching by muscles, or other mechanical or chemical means; and second, that the sensation, painful or not, is on a purely psychological basis. The peripheral origin of the pain is thought to be due to neuroma formation at the nerve stump, some of which are painful. Another example of the type of report leading to the belief that painful sensation is due to peripheral stimulation is that of Shillern (6). He has found tender areas along the spine of his patients with phantom pain and reports that the injection of novocain into these areas relieves the pain in the phantom extremity. He believes that muscle spasm pinches the nerve endings and that the injection relaxes the muscles. More evidence for the peripheral theory is presented by White (7) who quotes personal information from Lorente de No. He states, "A nerve made anoxic fires off repetitive stimuli which suggests that impaired circulation in a neuroma may be a source of painful impulses." White also noted that some pains are relieved in patients who contract malaria fever and concludes that the relief of pain is due to the improved circulation during the febrile paroxysm. He states that most patients have phantoms, that many of them tend to disappear through the years if they use a prosthesis. He also quotes a personal communication from von Wagener who stated that a patient who had severe phantom pains, and became addicted to morphine as a result of the pain, was entirely relieved of pain following a prefrontal lobotomy. The patient stated that the phantom sensations were still present but he no longer suffered from them. Gallinek (1) takes a slightly different

view, stating, "The phantom limb consists of the hallucination which a person experiences after complete or partial loss of an extremity." He discusses the theories as being cerebral in cause, partially psychic in cause and peripheral in cause. He believes that the suddenness of the loss is important in producing the phantom sensation. He states that he has not seen an example of a phantom limb in a congenital amputation or congenital absence of an extremity because the cortical image of the missing extremity has never been present. He quotes Schilder at some length to support this view. He also states that he has never seen a phantom penis or breast, or facial portion in a patient who has had these parts removed, and believes the psychic theory would, if true, give those phantoms, as well as those in the extremity. He accordingly favors the peripheral theory. He states, "Peripheral stimuli are the blood the sensory ghost must drink in order to be awakened to its phantom existence." In spite of stating that he believes the original stimuli begins in the peripheral nerve, he continues to call the phantom sensations hallucinations, although, according to his belief, illusion would probably be the more proper term. Pisetsky (3) makes a rather extensive review of the literature of phantom sensation and noted that 86 of the 90 patients in his series had phantoms and 14 of the 90 complained of pain. He quotes Bailey and Moersch as stating that 43 of their series of 50 patients had phantoms. The author states that he had 55 patients who sought treatment because of the sensations. He discusses the sensations as being divided into motor phenomena, such as tremors, choreiform movements of the muscles of the stump and sensory phenomena which are subdivided into a) awareness of the sensation and b) the presence of pain. He states, "A neurotic individual is necessarily more disposed to the appearance of phantom limb." Rid-doch (4) in commenting on the phantom limb and body shape, states that he has noted that patients distrust the reality of their own senses, fear insanity and do not discuss the sensation unless the pain is severe or unless they are asked about it. He has noted many patients are relieved on discussing the sensation and finding that they are normal experiences. He quotes the case of Head and Holmes who had a left foot phantom which disappeared after injury to the right parietal cortex. He con-

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siders that peripheral stimulation continues if the sensations are abnormal, but the painless phantom is projected into the prosthesis and finally disappears. He states that the painful phantom is rejected, and that he found 60 per cent of his patients who had phantom pain.

The present paper is based on observation made on amputees during their stay in an Army general hospital. (See Table I and Table II.) During the period of the study there was a total of 2284 amputees under observation. Of this group, 100 were selected at random, this 100 being considered per-

very high. It was noted that of the 91 patients referred because of psychopathology, in 2 instances the principal psychopathology present was the occurrence of phantom pain. One of these patients was not relieved of pain by psychotherapy, but the other patient with phantom pain, who was referred because of psychopathology, responded well to psychotherapy, was freed of pain and planned to go to work. It is of interest that patients referred because of violation of Army regulations who had phantom pain also responded fairly well to psychotherapy.

Table I reveals very well the high proportion of

TABLE I

PATIENTS SHOWING PHANTOM PAIN WHILE IN AN ARMY HOSPITAL DURING A GIVEN PERIOD OF TIME

Total No. of amputees under observation	Total 2284	Psychopathy	Psychosis	Phantom sense	Phantom pain
No. of group referred because of psychopathology	91	91	11	82	3
No. of group referred because of violating an A.R.	61	39	0	55	4
No. of group voluntarily seeking advice	152	112	0	137	0
No. of group selected at random, considered "normal"	100	64	1	95	1

sons who were making a normal adjustment to their amputation, and they were studied in detail for the presence of psychopathology. In this group originally studied only 1 had phantom pain, although 95 of the group had phantom sensations. Follow-up of this same group of patients since their discharge shows that 3 others have since developed phantom pain and the one originally complaining of pain reports that his pain has disappeared. A group of 152 of the 2284 voluntarily sought advice in the psychiatric clinic. Of this group, none had phantom pain although 137 of the group had phantom sensations but offered no complaints concerning them. Another group of 61 patients were referred because of violation of Army regulations. Of this group 39 had serious psychopathology present. Fifty-five of this group of 61 complained of phantom sensation and 4 of them interpreted the sensation as being painful. Another group of 91 patients were referred to the psychiatric clinic by the orthopedic section because of serious psychopathology. In this group 11 were psychotic, 82 of the 91 complained of phantom sensation and 3 complained that the sensations were painful. None of the 11 psychotic patients had pain. Thus, a total of 8 patients were observed to have phantom pain. These 8 patients were culled from a group of 404 who were given detailed psychiatric studies and were part of a total group of 2284 amputees, all of whom had an opportunity to ask for medical, surgical or psychiatric aid for phantom pain and for relief. The exact incidence of phantom sensation in this total group is not known, although it is believed to be

cases with phantom pain who show psychopathology. The other interesting thing in this particular study is the low incidence among these patients of phantom sensations which are interpreted by the individual as being painful, as compared to case reports from industrial and civilian groups, such as Riddoch's (4) in which there was an incidence of painful sensation in 60 per cent of the amputees.

Table II shows a similar correlation between the presence of psychopathology and the presence of phantom pain.

Table III shows the incidence of phantom phenomena in individuals chosen at random as persons showing normal reactions to amputations. It shows a high incidence of phantom phenomena and a low incidence of phantom pain.

Table IV, based on the follow-up of the "normal" cases, shows two things: first, the distribution of the presence of abnormal sensations, both painful and non-painful in individuals according to whether or not the injury was sustained in battle or in training, and as to the location of the amputation. It also shows a decreased incidence of phantom sensation in those persons in the community but an increase in the number who interpreted the sensation as being painful.

Table V shows the 18 "normal" patients who on follow-up study had no phantom sensation. It shows the present status of these patients in respect to psychopathology, social adjustment and physical condition, and other factors. It is interesting that a high percentage of them find their prosthesis to be satisfactory.

In considering specific individuals who show these reactions of pain in the phantom limb, perhaps the most interesting case is the one who was observed and studied in detail while in the hospital, complaining of pain, but who has returned home, adjusted well and no longer has pains. This man was a 34-year-old soldier who lost his left leg above the knee in combat. He had a very stable family situation, his wife visited him in the hospital and he was quite optimistic about the future. He had

up in a cold sweat. At times he would wake up feeling that somebody was cutting on his phantom leg. His principal phantom sensation was that someone was twisting on his amputated leg or that someone was cutting it. Patient had a record of no arrests and of good conduct in the Army. In the preliminary examination the clinical Rorschach evaluation of this individual shows that he had an excellent personality profile with many stability factors. It is also interesting to note that the Ross rat-

TABLE II  
AMPUTEES WITH PHANTOM PAIN

	Referred because of pain	Referred because of other psychopathy	Found during routine exam. of those violating A.R.'s	Found during survey of 100 amputees considered "normal"	Total
Total with pain	2	1	4	4	11
Pain in hospital	2	1	4	1	8
Pain decreasing in hospital	0	1	4	1	6
Pain in community	—	—	—	3	3
Psychopathology					
Severe	2	0	1	1	4
Mild	0	1	3	3	7
None	0	0	0	0*	0
Social adjustment					
Satisfactory					
Hospital	0	1	2	0	3
Community	—	—	—	2	2
Unsatisfactory					
Hospital	2	0	2	4	8
Community	—	—	—	2	2
Reaction to psychotherapy					
Poor	2	0	0	—	2
Well	0	1	4	—	5
Planned work	0	1	3	—	4
Employed					
Yes	—	—	—	2	2
No	—	—	—	2	2

Dash indicates unknown.

\* One patient had psychopathology and pain in hospital, and none in community.

made good economic adjustment prior to his entry into the Service and the nature of his work was such that he felt he could carry on at this after leaving the hospital. His income prior to entry into the Service had been approximately \$4,000.00 per year and he had every expectation of being able to equal or better this record after his discharge. The patient had been married nine years. He was well adjusted sexually and socially, drank very moderately and had an ordinary interest in religion. Patient had been prone to talk in his sleep prior to entry into the Service. Both before and after his injury he had many battle dreams and would frequently wake

ing indicated that the patient had made a normal adjustment and he had 15 of the Davidson adjustment signs. Eighteen months after the patient's discharge from the hospital, a letter was received from him, stating that he had gone into a new business, that he was adapting himself well to it and that he was making more money than he had at his old occupation, and he no longer had battle dreams. He also expressed many compliments on the care he had received in the hospital and on the fact that his prosthesis was fitting well. He stated that his amputation was fairly comfortable and that he no longer had any pain. This case, I believe, is an ex-



TABLE III  
ADJUSTMENT IN THE COMMUNITY

		No. reported	Physical condition		* Prosthesis		Psycho-pathology		Phantom		Pain Present	Economic		Attending School		
			Sat.	Unsat.	Sat.	Unsat.	Absent	Pr.	Sensation			Empl.	Unempl.			
									Present	Absent						
BATTLE CASUALTY																
U	{	B	Well adjusted	5	3	2	4	1	3	2	2	—	—	4	1	—
		B	Poorly adjusted	3	—	1	2	1	—	3	2	1	1	2	1	—
		A	Well adjusted	5	4	—	4	1	3	2	3	1	—	3	2	—
		A	Poorly adjusted	2	—	—	—	1	—	1	1	—	—	—	1	—
L	{	B	Well adjusted	10	9	1	9	1	10	—	6	3	1	7	1	1
		B	Poorly adjusted	5	1	4	2	3	—	5	3	1	—	2	3	1
		A	Well adjusted	13	9	2	7	5	10	3	5	5	—	8	5	3
		A	Poorly adjusted	3	1	1	1	1	1	2	1	—	—	2	1	—
D	{	B	Well adjusted	1	—	1	2	—	2	—	—	—	—	2	—	—
		B	Poorly adjusted	1	—	—	—	1	—	1	1	—	—	—	1	—
		A	Well adjusted	1	1	—	1	—	—	1	—	1	—	1	—	—
		A	Poorly adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—
NON-BATTLE CASUALTY																
U	{	B	Well adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—
		B	Poorly adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—
		A	Well adjusted	2	1	—	1	—	2	—	1	1	—	2	—	1
		A	Poorly adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—
L	{	B	Well adjusted	3	1	1	3	—	2	1	2	—	—	3	—	1
		B	Poorly adjusted	3	2	1	2	1	—	3	2	—	1	—	3	2
		A	Well adjusted	2	1	—	1	1	2	—	1	1	—	2	—	1
		A	Poorly adjusted	1	—	1	1	—	—	1	—	—	—	—	1	—
D	{	B	Well adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—
		B	Poorly adjusted	1	—	1	—	1	—	1	—	—	—	—	1	—
		A	Well adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—
		A	Poorly adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—
Total B.C.		49	28	12	32	15	29	20	24	12	2	31	16	5	5	
Total N.B.C.		12	5	4	8	3	6	6	6	2	1	7	5	5	5	
Total		61	33	16	40	18	35	26	30	14	3	38	21	10	10	
Grand total		61	59		58		61		44		3	59		10		

B—Below joint. A—Above joint. U—Upper. L—Lower. D—Double. B.C.—Battle casualty. N.B.C.—Non-battle casualty.

TABLE IV  
PHANTOM LIMB PHENOMENA

	Battle casualties						Non-battle casualties					
	Upper		Lower		Double		Upper		Lower		Double	
	Below	Above	Below	Above	Below	Above	Below	Above	Below	Above	Below	Above
No. studied at hospital	16	7	22	25	4	2	5	4	8	6	1	100
No. sensation	12	7	22	25	4	2	4	4	8	6	1	95
No. abnormal sensation	4	0	0	0	0	0	1	0	0	0	0	5
Sensation and pain	0	0	1	0	0	0	0	0	0	0	0	1
No. reported from community	5	5	13	11	0	2	1	1	4	2	..	44
No. sensation	4	4	9	6	—	1	—	1	4	1	..	30
No. abnormal	1	1	4	5	—	1	1	—	—	1	..	14
Pain and sensation	1	—	1*	—	—	—	—	—	1	—	..	3

\* Not the same who had pain in the hospital. He did not report.

cellent example of the presence of psychopathology as an accute reaction to his injury. During the period of psychopathology the patient interprets the phantom sensations as being painful. With the disappearance of the psychopathology and the return to a normal routine of living the phantom sensations are now ignored and no longer interpreted as painful.

The following is an example of a person who has not made an adjustment to his amputation and who continues to complain of severe pain. Patient was an officer who had a high bilateral amputation of the lower extremities about one year prior to the

TABLE V

## DISTRIBUTION OF ABSENCE OF PHANTOM PHENOMENA

Number of Patients with no Phantom Phenomena, 18

Psychopathology	
Absence .....	14
Present .....	4
Social adjustment	
Satisfactory .....	12
Unsatisfactory .....	0
Physical condition	
Good .....	6
Poor .....	2
Alcoholism	
Increased .....	0
Less .....	3
Same .....	15
Religion	
More .....	1
Same .....	10
Work	
Employed .....	10
Unemployed .....	3
Prosthesis	
Satisfactory .....	15
Unsatisfactory .....	2

present report. He had been in the hospital of this study throughout most of the time of his care. He had been bothered by several episodes of severe pain which start with a phantom pain in both stumps and after a few hours change to a severe phantom pain giving the sensation of having both arches of his feet crushed. He states that when it reaches a maximum it is unbearable and if it keeps up it will drive him out of his mind. He states if he can get even 25 per cent relief he can distract himself enough so that he does not notice the pain. He claims to have had four lumbar sympathetic blocks, the third one giving him relief for about ten days and the others giving him practically no relief. The patient reveals considerable psychopathology. While

overseas he became extremely nervous and was unable to coordinate the muscles of his hands or arms. This condition persisted until late in March, just prior to his injury. During the time he had a tremor and was almost unable to feed himself and at times he felt paralyzed and unable to move. He has had considerable insomnia since the injury, has been irritable and has shown great hostility towards certain of the ward personnel. Recently he displayed a burn on the right middle finger of the right hand which he stated was due to a cigarette burning between his fingers which he had not released. He was referred to the N-P Department in December and given considerable psychotherapy with no relief of symptoms. This patient is now incapacitated and still in the hospital.

The second case which shows the coincidence of psychopathology and phantom sensation was an officer who lost the left leg at the level of the thigh following an aircraft crash while in enemy territory. He was treated by French civilians for a while and then transferred to a German prison hospital and later repatriated to the United States. He also has trouble with his left eye due to the injury and his vision is blurred on occasion. He has had several lumbar sympathetic blocks without relief and a sympathectomy was performed which gave him no relief. Psychotherapy was given with some success. Patient has had some jerking of the muscles around his stump. There does not seem to be any relationship between the muscle twitchings and the pain. During an intensive course of psychotherapy he was given interviews in hypnotic trances and these would give him relief of pain for from forty-five minutes to several hours. When he returned to the clinic it was noted that the patient was having some insomnia, and although the pain seemed to be stopped temporarily by psychotherapy it always recurs.

The amputee oldest in time lapsed since the injury observed by the authors is a woman seen at the age of 40 who came complaining of phantom sensations and phantom pain. This lady had had an amputation at the age of 7 years. The phantom sensations had persisted continuously since that time. It is interesting to note that there had been two episodes of pain, one at about the age of 20 when the individual was having considerable emotional and economic difficulty. The pain had then subsided with the solution of her economic and social problem. The pain recurred at the age of 37, three years prior to consultation with the physician, and the pain occurred in a setting of great difficulty in adjusting to a rather difficult marital situation.

The outstanding fact in this study is that all of the patients complaining of phantom pain have severe psychopathology. It should be emphasized, however, that the presence of psychopathology is much higher in the whole series than the incidence of pain. In the 4 examples of phantom pain in the 100 patients selected at random for detailed psychiatric study, 3 of the cases had no pain while in the hospital but developed the pain after their return home and their cases show similarities in the Rorschach profile. Two of the 3 patients have free-floating anxiety in the Rorschach and all 3 show an immature type of emotional adjustment with the presence of anxiety, confusion and great concern about their ability to get along in the world. The fourth case, the one who had the phantom sensation in the hospital but who adjusted well after his return home with a loss of the phantom pain, was a rather mature, stable person, but he too showed considerable anxiety on the Rorschach profile while in the hospital. The origin of the phantom sensation remains unclear but it would appear that practically all patients with amputation have phantom sensations at some time. It would also appear that among certain very stable individuals, with the passage of time, the phantom sensations gradually disappear. Probably the most tenable theory as to the reason for the phantom sensation is that of Schilder, namely, that the body image concept of oneself in space becomes a permanent part of the individual perception and early in life this image becomes rather fixed. The removal of one or more of the extremities does not seem to alter this concept of oneself in space, at least not immediately. It has been pointed out by other workers that congenital amputees do not have phantom sensations.

This study would suggest that phantom pain occurs in those individuals who are having phantom sensations but who, by reasons of psychopathology, interpret the phantom sensations as being unpleasant and painful. In our experience with these cases, those describing phantom sensations and those describing phantom pain use the same adjectives, such as twisting, burning, twitching, pulling, and itching, but in most instances they are regarded as annoying sensations and are not interpreted as pain and no sedative is taken for them. The unstable individual tends to interpret these same sensations as painful and gets into the vicious circle of taking larger doses for the pain which in turn becomes more severe, requiring more sedation.

This occurrence of pain in unstable persons has been noted in other studies. In 1908 Schmidt (5) commented on the "psychical origin" of pain which

may be projected into some peripheral area and he mentions the aggravation of organic pain by "psychical factors." He reports that diverting the patient's attention to suitable occupations has an anodyne action. Wolff, Gasser and Hinsey (8) have also remarked, "Attitude and suggestion may modify both the pain . . . and the manner of reaction. Attitude engendered by situations and experience may be accompanied by alterations in the pain threshold and in the manner of reaction to pain." \*

More intensive psychiatric investigations of these cases is desirable, and in our opinion the whole concept of pain and painful sensation needs review.

#### SUMMARY

A series of 2284 patients with amputations have been seen. In this group 404 have had detailed psychiatric study. Phantom sensation has been found to occur in practically all individuals who are studied carefully. Spontaneous complaints of pain were rather rare among the group. The patients complaining of phantom pain were individuals who had considerable psychopathology complicating their orthopedic picture. It is our impression that phantom pain is merely the interpretation of a phantom sensation by certain individuals who show psychopathology. Two cases are reported, one military and one civilian, which support this view. In both individuals the pain tended to come and go with psychopathological symptoms irrespective of what type of external treatment was carried on.

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\* Pisetsky (2) reports the use of electro-shock for relief of painful sensations in an amputation stump in a 55-year-old man. The man had a depressive reaction following the amputation and electro-shock relieved both the mental symptoms and the phantom pains.



## CLINICAL NOTES

### PSYCHOSOMATIC MEDICINE IN AN ARMY HOSPITAL IN INDIA \*

WALTER W. HAMBURGER, JR.

#### I. INTRODUCTION

The purpose of this paper is to evaluate the emotional components of illness that occurred in rear echelon troops in India. Though not usually threatened with loss of life, these soldiers developed emotional illnesses expressive of their reaction to the peculiar stresses of their environment. This paper will indicate the nature of these stresses, their effect upon the soldiers and the characteristics of the resulting psychosomatic illnesses.

To do this, the author has reviewed the charts of 1266 consecutive patients treated by him in one year on the wards of the Medical Section of an Army hospital in Assam, India. Originally a 500 bed Station Hospital, it was subsequently redesignated a 1000 bed General.

It is to be emphasized that these patients were all admitted to medical wards and the observations and management of them were from the point of view of an internist. This paper then represents more of an account of the clinical picture that the author saw than a technical study of the psychodynamics of emotional illness.<sup>1</sup>

#### II. THE NATURE OF THE STRESS

India: last link in the world's longest military supply chain; a theatre existing primarily to shuttle supplies to China over a thousand mile treacherous jungle road and over the Himalayan mountains—"The Hump"—at 18,000 feet; a theatre of operations virtually without advancing military objectives; a theatre which evolved only as our commitments grew to blockaded China. First the road had to be built in jungle cleared of raiding Japanese squads; pipe lines laid for gasoline; communications erected; air strips built and army posts constructed in bamboo groves, rice paddies and tea plantations.

India: subtropical, sticky, enervating swamp country abounding in malarious mosquitos, snakes,

jackals, buzzards, and water buffalo. Relentless heat for eight months a year; almost daily rain during a six months monsoon season which kept clothes and linens perpetually damp, woolens and leather mildewed and envelopes stuck shut. At sundown the soldiers had to put hot mosquito nets over their Indian charpoy-beds, roll down their shirt sleeves, put on high shoes, and spread mosquito repellent on an already drenched skin in the eternal war against malaria. Spam and Vienna sausage out of cans, powdered eggs and milk, dehydrated potatoes, heavily chlorinated drinking water out of tin cups, gas drum showers, pit latrines, kerosene lamps.

India: primitive, agricultural, religiously preoccupied country, almost untouched in the past millennium by modern methods of the Western world. One narrow gauge railroad serving Assam, the gateway to blockaded Burma and China. Flat barges instead circling their three-week journey up the tortuous Brahmaputra River. Ox cart trails served as roads. The American soldiers had infrequent furloughs because of these transportation difficulties. There were no nearby cities for passes. The Indians, degenerated by poverty, religious superstitions and British exploitation were poor company for the soldier in his off-duty hours. Their native dialects, unsavoury personal habits and unfamiliar dress and customs were an insurmountable block to the average American. Then, too, there was the constant fear of the endemic Indian diseases: elephantiasis (filariasis), leprosy, cholera, and small pox. This situation led to virtual isolation of American Army posts. Letters from home arrived irregularly two to three weeks after being written, and packages took over two months to arrive.

As mentioned by others (3, 13, 23), the physiological and psychological effects of this abnormal sub-tropical life upon the soldier were profound. The high temperature and humidity depressed the vital centers with a lowered blood pressure, pulse rate and metabolism. Marginal avitaminoses and decreased resistance to infection were always present. This led, in turn, to poor appetite, easy fatigability, loss of initiative, and emotional instability. Alcoholic and sexual overindulgence was rampant.

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<sup>1</sup> The author wishes to express his gratitude to the hospital psychiatrist, Dr. Marvin F. Greiber, whose constant help with these psychosomatic cases was of great value.

This proved to be fertile soil for the growth of true emotional illness.

A serious blow to the GI was sustained after V-E Day, 1945, when the War Department's twenty-four months rotation policy was suspended in India. This proved to be ill-advised, inasmuch as the greatest sustaining force behind each soldier had been the knowledge that if he stuck out two years in India he would be returned to the United States for reassignment at home. Without the rotation policy, the discomforts of daily living, the monotony and drudgery of the work day, the boredom of the off-duty hours, the constant nostalgia 12,000 miles from home seemed unending.

### III. THE NATURE OF THE PATIENT AND THE DOCTOR-PATIENT RELATIONSHIP

The soldier-patient overseas is a young male previously in good health. He has already successfully passed several Army physicals and has survived the rigors of basic training. This means, as mentioned by Long (12), that chronic disease, congenital abnormalities, degenerative, neoplastic, and overt mental disease (mental defectives and psychotics) are relatively uncommon in such a population.

The so-called secondary gain of illness is great. Hospitalization allows the soldier to escape, in a socially acceptable manner, from the hardships and drudgery of his unpleasant environment. The Army hospitals in Assam housed the only spring beds, soft food and American women (nurses) that the GI saw. Possibly for the first time in his Army career, the sick soldier is given individualized, non-military, solicitous treatment. Nor is there any financial loss to the soldier in hospital as there would be to a sick civilian. Naturally in such a relatively secure and pleasant environment, many patients, consciously or unconsciously, resist "cure" and return to duty status.

Also, hospitalization for the soldier-patient is usually a military order in which he has no voice. Nor does he have any choice in his doctor, nor his treatment. Minor ailments, varying from the common cold to mild anxiety states, which might better be treated on duty status, are, by military order, treated in the hospital. This provokes hostility on the part of both the patient and his doctor which interferes with optimal therapeutic efficiency.

The goal of the Army doctor in war time is different from the goal he tried to attain as a civilian physician. The complete cure of the individual is secondary to keeping as many soldiers on duty status as much of the time as possible. In other words, maximum benefit of hospitalization

is frequently achieved and the patient able to return to duty, without a clinical cure having been effected. This is particularly true in the realm of emotional illness where environmental maladjustment plays a larger etiological role in symptom production than bacteria, toxins, degeneration, or neoplasms.

### IV. THE NATURE OF THE ILLNESS

Of the 1266 patients reviewed, 928 (73.3 per cent) had predominately organic, structural disease (somatic); 104 (8.2 per cent) had full-blown neuroses (psychogenic)<sup>2</sup>; 234 (18.5 per cent) had a combination of the two (psychosomatic).

#### A. Organic Disease (See Table I)

Acute infections, including pneumonia, upper respiratory diseases, Dengue and sandfly fevers,

TABLE I

#### ORGANIC DISEASE (SOMATIC)

Bacterial	
Bronchitis, pneumonia, dysenteries.....	205
Virus	
Nasopharyngitis, Dengue fever, sandfly fever.....	122
Parasitic	
Malaria, amebiasis .....	178
Allergic	
Asthma, hay fever, urticaria.....	99
Diseases of Unknown Etiology	
Primary atypical pneumonia	} 174
Fever of unknown origin	
Acute infectious hepatitis	
Miscellaneous	
Pleurisy, peptic ulcer, scrub typhus, blood dyscrasias, arthritis, lymphadenitis .....	150
Total .....	928

malaria, amebiasis, and the bacterial dysenteries, comprised the great bulk of the organic diseases. The allergic diseases, asthma, hay fever and urticaria, were also common. The streptococcal infections were notably infrequent. It should be noted that the incidence of specific diseases in this series depended mostly on the administrative organization of the Medical Service. That is, communicable diseases, gastrointestinal diseases, skin, and venereal diseases, and malaria were usually admitted to wards other than the Medical Section and hence were not seen by the author. This explains the apparent low incidence of gastrointestinal diseases in this series. The case distribution,

<sup>2</sup> Two psychotics and seven psychopaths are included for simplification.

however, varied with changing chiefs of service, hospital expansion and overflow of certain sections, notably, Malaria.

### B. Psychoneuroses (See Table II)

Of this series, 104 patients (8.2 per cent), were discharged with the diagnosis of psychoneurosis, yet conservatism was employed in the use of the psychoneurotic label and only the fullblown, obvious cases were so classified. Two psychotics and seven psychopaths were included for simplification. Of the neuroses, anxiety elements predominated in 88 (85 per cent). The majority of the anxiety cases had presenting somatic complaints. These cases have been classified as anxiety-hysterias. They could as well have been termed anxiety states with

TABLE II  
NEUROSES (PSYCHOGENIC)

Anxiety-hysterias	75
Anxiety states	13
Psychopathy	7
Neurasthenia	4
Hysterias	3
Psychoses	2
Total	104

conversion symptoms. They were more difficult to handle than the uncomplicated anxiety states because the patients usually denied any subjective apprehension or nervousness and were preoccupied with their projected somatic manifestations.

By an overwhelming majority, the commonest anxiety-hysteria syndrome was that of functional headaches. Its incidence in the hospital at large was second only to malaria, as it was a major problem not only on the General Medical Section, but on the Neuropsychiatric, Ear, Nose and Throat, and Eye Sections. Such headaches are usually vertex or frontal in location, constrictive or throbbing in character, and constant in occurrence. They are rarely eased by the usual analgesics, but not infrequently by a sterile hypodermic accompanied by much suggestion or by sedatives. Such therapeutic tests are of great diagnostic value. Lumbar puncture was avoided whenever possible as it indicated the doctor's indecision to the patient and also gave him a new focus for conversion. A thorough neurological examination, including ophthalmoscopic, is adequate to rule out organic central nervous system disease in most instances. Sinus and eye disease were ruled out by special examination when indicated. Therapy was then instituted as outlined later in this paper.

A second large group of the anxiety-hysteria patients had cardiovascular symptoms: "palpitation," "dizziness," "heart pains," "shortness of breath," which have been lumped into a vasomotor instability group. These were called "Effort Syndrome," "Disordered Action of the Heart," or "Neuro-circulatory Asthenia" in World War I (11, 14). It is more accurate to regard them as anxiety neuroses, and prevent the establishment of a more refractory cardiac neurosis by centering both doctors' and patients' attention on the cardiovascular system.

A third large anxiety-hysteria group manifested the hyperventilation syndrome. The presenting complaints were frequently quite bizarre and included "fainting spells," "shortness of breath," "hot spells," "itching," "dizziness," and "weakness." The symptoms were usually periodic and came in attacks. These patients, particularly, sighed when observed, though not all could recall panting or feeling short of breath during an attack. The symptoms were reproduced by three minutes of hyperventilation in the sitting position. The patient was then taught to control his symptoms by breath-holding or rebreathing into a paper bag. Intravenous calcium salts were useful during an acute attack. Therapy was then directed toward the underlying anxiety.

A smaller group of the anxiety patients had no conversion symptoms and their free anxiety was obvious to them. These patients complained of "nervousness," "trembling," "irritability," "insomnia," "nightmares," "loss of appetite," or "inability to concentrate." On inspection they usually appeared upset, tense, fidgety, and unrelaxed, indicating their inner tension. On examination one or more of the objective stigmata of anxiety were present: cool, sweaty skin, flushing and blanching phenomena, tremulousness, hyperactive reflexes, sighing respiration, labile pulse, and blood pressure. This group was quite amenable to psychotherapy.

### C. Psychosomatic Disorders (See Table III)

Two hundred and thirty-four (18.5 per cent) of the patients had a combination of organic structural disease and emotional illness. Sometimes they were independent syndromes. In others, the emotional overlay stemmed from an organic disease, taking the form of prolonged disability. In still other cases, the disorders were borderline between structural and emotional illness. This last group was quite large and difficult to handle.



Patients in this borderline group had illnesses which were completely subjective in type. No structural changes or dysfunction could ever be demonstrated by the usual examinations. At the same time, no specific mental conflict, mental aberrations nor past history of neurotic trends could be elicited, making the diagnosis of psychoneurosis unwarranted. The author handled these patients, however, as presumptively psychoneurotic, feeling that more prolonged and intensive study than his time allowed would have demonstrated the emotional basis for these complaints.

TABLE III

## PSYCHOSOMATIC DISORDERS

Organic disease and unrelated neurosis.....	28
Organic disease and secondary emotional disability....	17
Borderline: presumptively emotional	
Musculo-skeletal .....	93
Gastrointestinal .....	69
Cardio-respiratory .....	17
Central nervous system.....	10
Total .....	234

One common syndrome in this borderline group was that of arthralgia: persistent pains in the joints without any objective abnormalities. It may have been precipitated by a climate which averaged 175 inches of rainfall a year. However, the soldiers that turned into the hospital for this had low thresholds to pain, were disgruntled in their outfits and had no incentive to continue work. Rest, heat and supportive measures gave little relief. The same generalities apply to the gastrointestinal group of borderline cases. Coarse food, poorly prepared, may provoke indigestion and abdominal discomfort, but only the unstable and dissatisfied soldiers became disabled by it.

## V. TREATMENT

Treatment of all the non-organic cases was similar and had a certain progressive pattern to it, depending on the nature and severity of the particular case. At the time of the initial history and physical examination, a working diagnosis was postulated, and symptomatic medical treatment based thereon was immediately instituted. At the same time, the investigation of organic structural disease was begun by requesting appropriate laboratory, X-ray and consultative studies. Daily ward rounds allowed the doctor to gradually get to know his patient and to observe the response (or lack thereof) to symptomatic treatment. The institution of therapy during the period of investigation

of organic factors saves time, keeps the patient satisfied and is not infrequently of diagnostic value. The common practice of "letting a patient sit" while awaiting reports of special examinations is to be deplored.

When organic disease was satisfactorily eliminated, the patient was given a second private interview. Here he was flatly told that he had no organic disease, as proven by the specific tests and examinations which had been performed. He was told by simple examples that his symptoms were on an emotional basis. The terms "imaginary," "gold-bricking" and "mental" were studiously avoided. Further personality, family and situational history were obtained at this time. An attempt was made to fill in figuratively the equation: individual predisposition  $\times$  environmental stress = breakdown (symptoms). An estimate of the patient's insight was obtained. By a combination of the above, a rough prognosis was established and a decision reached as to the "depth" of the personality disorder and what further therapy was indicated. The pictorial graph devised by Schwab (18, 19) or the method of the Cornell Service Index (20) would have been of aid in estimating the severity of the personality disorders.

Those patients with a deep seated neurosis obviously requiring prolonged or technical psychotherapy were transferred to the Neuropsychiatric Service. Borderline cases or those requiring diagnostic aid were sent to the psychiatrist for consultation and subsequently transferred to the N-P Service or returned to the Medical Section for treatment. Non-disabling neuroses, particularly if the precipitating stresses were obvious, or if the patient had good insight, were given superficial psychotherapy on the medical wards. Fifty-eight (19.8 per cent) of the non-organic cases were sent to the psychiatrist for consultation, of which 32 (10.1 per cent) were transferred to his service for treatment. This allowed the busy psychiatrist to devote himself to the more severe psychiatric cases.

The remaining psychoneurotics and psychosomatic patients treated on the Medical Section by the author were given a brief, superficial type of "covering up" psychotherapy. Reassurance, explanation and suggestion were used to relieve these men. It was arranged that these patients attend bi-weekly Group Psychotherapy classes led by the psychiatrist. These mental hygiene lectures and discussions were found to be of great value. Here, for example, the GI patient learned, for perhaps the first time, that his buddies were also terribly homesick, sleeping poorly, feeling nervous or dejected, and that

these emotional disturbances could produce bodily symptoms.

If symptoms could not be relieved by these means in a reasonable length of time (two weeks), the patient was urged to return to duty and work in spite of his symptoms. Medicines were given to him and recommendations to his unit medical officer or commanding officer for change of job, furlough or return to the hospital for follow-up care, as indicated. Chronic and troublesome cases were thoroughly discussed with the patients' medical officer verbally or by letter.

By such a program, the soldier with emotional illness was returned to duty in an average of fourteen days, as compared to an average of thirteen for the Medical Service at large. Patients with severe personality disturbances, who had to receive deep psychotherapy after transfer to the psychiatric wards, stayed in the hospital an average of thirty-four days. As Weinstein and Stein (21) have emphasized, prolonged hospitalization for this group of patients may be actually detrimental, and complete cures frequently can not be effected in hospital wards.

#### VI. DISCUSSION

The occurrence of emotional illness in one-fourth of all patients studied on a Medical Section is expressive of the common conflict between the overseas soldier's conscientious attempt to make a contribution to the military effort, and his more personal drives to be independent and return home to his loved ones. His emotional illness is an unconscious attempt to solve this conflict.

It appeared to the author that this unresolved conflict, in an unpleasant theatre, without advancing military objectives nor an adequate rotation policy, produced a non-specific state of inner tension or anxiety. In different individuals this tension had its roots in different forces: repressed hostilities, fear of strange environment, worry about affairs at home, or continued frustration of personal ambition. These factors which precipitate emotional illness in non-combatant troops have been discussed by others (1, 4). Eventually, as Grinker has pointed out, the ego becomes deserted by all substitutive forces which could help and protect it, and "... the only possible method of avoiding complete dissolution is by flight (6)." Thus anxiety elements predominated in 85 per cent of the psychoneuroses studied in this series. Similarly, the frequent psychosomatic symptoms represent unconscious anxiety (7, 10, 21).

It appears that any emotional illness may be

roughly quantitated with respect to the two factors of stress and predisposition in terms of the equation:  $\text{stress} \times \text{predisposition} = \text{psychological breakdown}$ . Soldiers with little predisposition to breakdown can develop symptoms under the severe stress of combat and threat of death (5, 8, 15). In this series, where the stress takes the less threatening form of drudgery, nostalgia and physical discomfort, predisposition was probably greater. Of the 104 psychoneuroses, an adequate psychiatric history was available in 68. Of this number, 46 (67.6 per cent) gave a prearmy history of familial or personal neurotic traits. Unfortunately, adequate psychiatric histories were not available in the psychosomatic nor in control groups.

The Army physician must learn to view his patients' illnesses in terms of environmental stresses and emotional maladjustment, as well as in the more traditional organic, pathological terms. That this is not always done is illustrated by a review of the admission diagnoses made by medical officers in referring dispensaries and hospitals. They are frequently cursory and tentative diagnoses, but, nevertheless, the trend is definite. Of the group of 104 psychoneuroses admitted to the Medical Section, 50 admission diagnoses specifically named the soldiers' illness. Of this number, 40 specified an organic disease and only 10 suggested an emotional illness. The importance of this lies in the fact that most of the 40 patients diagnosed as organic cases had been told that they had a structural disease, which made them more than usually refractory to an emotional explanation. The doctor must inquire into, understand and relieve, where possible, the environmental stresses which have contributed to his patients' breakdown. Misassignment, too great responsibility or overwork are all too frequently precipitating factors which can be corrected, with dramatic improvement in the patients' symptoms.

As others have pointed out (16), the diagnosis of malingering has been carelessly used, and has frequently been a defense on the part of the medical officer against proper understanding and management of psychosomatic problems. The author has made such a diagnosis most infrequently. Conscious assumption of symptoms suggests an underlying personality disorder. The soldier may have deep anxieties or phobias about some aspect of Army life which he cannot face on duty. If he lacks the social conscience to keep him at his job, he is probably a psychopath (inadequate personality) and should be separated from the service.

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organic disease has been "ruled out" they have reassured the patient and discharged their responsibility to him. Actually, it is not the patient, but the physician, who has been reassured. For example, the patient with a tension headache is usually not even aware that his symptom could be the forerunner of a brain tumor. The doctor, however, exhibits great interest and indecision until complicated examinations have ruled out brain tumor (and other organic diseases), and then he, the doctor, is at last reassured. The patient, meanwhile, has the same pain and only a statement as to what condition he has *not* got. All he desires is relief from his headache, if possible, or at least a simple explanation of what is wrong with him. The simple ruling out of organic disease satisfies neither of these. The patient then needs active therapy which is primarily an explanation of the emotional basis of his illness, true reassurance and practical suggestions for management.

The policy of specialization in Army hospitals is not conducive to the best solution of the psychosomatic problem. Whenever organic disease has been eliminated, the ward officer refers the case to the psychiatrist. If there is none available, the patient is transferred to a larger hospital where there is one. During this waiting period of days and weeks the patient is usually receiving no treatment. He is assailed by an overlay of fears and anxiety because his physician is showing such disinterest and indecision. Finally the patient arrives on a straight psychiatric service where he is housed with severe neurotics and sometimes psychotics. He then feels he has been "double-crossed" by his original ward officer, or has doubts of his own sanity. Being suggestible, he picks up the symptoms and reactions of the psychiatric patients. By this time his symptoms are more firmly fixed, he is refractory to treatment and can no longer be salvaged for duty. As Schwab and Rochester have pointed out (19), the patients with psychological illness seem to recover better when housed on a mixed medical ward than when segregated on a psychiatric ward.

It is the author's feeling, after caring for sick soldiers in India for two years, that many of the emotional illnesses, at least in rear echelon areas, being the product of environmental maladjustment more than serious personality disorders, are amenable to superficial psychotherapy in the hands of general medical men. It will necessarily be a "covering up" type of symptomatic treatment. It has proven to be adequate, however, in the particular situation described.

#### VII. SUGGESTIONS FOR PROPHYLAXIS AND MANAGEMENT OF PSYCHOSOMATIC ILLNESSES

It would be feasible to expose the overseas soldiers to group mental hygiene lectures similar to those devoted to venereal disease control. This has been successfully tried, to a limited extent, in the Zone of the Interior (2, 17) but the need is greater overseas. In these, homesickness, family problems, the individual's adjustment in his unit could be discussed. The relation of these to physical symptoms could be explained. Unit commanders could profit by studying the same material. They should learn the psychological importance of correct assignments, adequate recreation and regular furloughs. This, too, has been suggested (9) but never widely used.

Whenever possible, there should be an adequate rotation policy to limit the soldiers' time away from home. This period should not exceed two years in tropical and sub-tropical climates.

Medical officers need further orientation regarding the recognition and management of emotional illness in soldiers. This could well be started when the physician is receiving his first military indoctrination in a Medical Department Replacement Pool. It could be continued under the ægis of theatre or regional consultants in Medicine and Psychiatry.

Group psychotherapy is a valuable adjunct to individual treatment. Competent social workers, trained nurses and Red Cross workers can substitute for the physician in leading such discussion groups.

There should be closer liaison between the Medical and Neuropsychiatric Services of Army hospitals. Combined ward rounds and seminars would be very valuable.

#### VIII. SUMMARY

1. The author reviewed the charts of 1266 consecutive patients treated by him in a year on a General Medical Section of an Army hospital in Assam, India. Nine hundred and twenty-eight patients (73.3 per cent) had organic, somatic diseases; 104 (8.2 per cent) had full-blown psychoneuroses; 234 (18.5 per cent) had a combination of the two: psychosomatic illnesses. In other words, one out of every four general medical patients had a large emotional component to his illness.

2. The soldier's life in India was detailed to illustrate how poor military objectives, monotony, homesickness, and subtropical physical discomforts over long periods of time can constitute sufficient stress in a non-combatant area to lead to psychological breakdown.



3. The characteristics of the soldier-patient overseas were analyzed, with emphasis on the secondary gains of his illness. In contrast to civilian medicine, the Army doctor's goal in war time is not the complete cure of the individual patient as much as keeping as many soldiers on duty status as much of the time as possible.

4. The nature of the patients' illnesses was analyzed. The organic cases were primarily acute infections: bacterial, virus and parasitic. The psychoneuroses exhibited anxiety elements in 85 per cent, both with and without conversion symptoms. The commonest anxiety syndromes of functional headaches, vasomotor instability and hyperventilation were detailed. The psychosomatic disorders included independent organic and emotional syndromes; emotional overlay secondary to an organic disease; and a large group of borderline cases which were presumptively of emotional etiology.

5. The treatment program for the emotional illnesses was outlined. Only 10 per cent of the patients, who had deep-seated personality disorders, were transferred to the Neuropsychiatric Service. The rest were treated on medical wards by superficial psychotherapy, including true reassurance, suggestion and group psychotherapy.

6. The basic conflict between group military objectives and the soldiers' personal incentives was presented in the Discussion as the fundamental cause for the many emotional illnesses. This conflict produced a chronic state of tension (anxiety) which was evident in most of the neurotic and psychosomatic patients. The relationship of environmental stress to individual predisposition in emotional illness was discussed. The role that the internist can play in adjusting these stresses, and giving the patient some insight into the nature of his emotional illness in the form of superficial psychotherapy, was outlined.

7. Suggestions for better prophylaxis and management of psychosomatic illnesses in the overseas Army were made. These included group mental hygiene lectures for both soldiers and their commanders, an effective rotation policy, orientation of general duty medical officers to the diagnosis and treatment of emotional illness, the increased use of group psychotherapy, and a plea for closer liaison between Medical and Neuropsychiatric Services in Army hospitals.

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# EMOTIONAL FACTORS IN URTICARIA

## A REPORT OF THREE CASES

LOUIS KAYWIN, M.D.\*†

### INTRODUCTION

Although the role of psychological factors in urticaria has long been recognized, insufficient cases have as yet been studied to shed much light on the subject. It is intended here briefly to review some of the prevalent theories and to present three cases in the hope that this additional data may contribute to our understanding of some of the factors involved. An exhaustive review of the literature is not intended as this has been adequately done in several recent publications (2, 3, 7, 8).

Most of the earlier studies on urticaria were done primarily by dermatologists, and in some cases they were able to observe that emotional factors often played a part, either in bringing forth signs and symptoms, or aggravating an already existing urticaria. In a review of several authors who had studied large series of cases of urticaria, Sutton and Sutton (7) found that statistics varied greatly as to the percentage of urticaria attributed to emotional causes. This ranged from 10 per cent in one series to another series which ascribed 18 per cent to emotional factors and 25 per cent to unknown causes.

Fenichel (3) indicated that the tendency of the skin to be influenced by vasomotor reactions, which in turn are evoked by unconscious impulses, has to be understood from the point of view of the general physiological functions of the skin which displays four characteristics whereby it represents a boundary between the organism and the external world. 1. In its protective function the skin treats internal stimuli like external and it uses vasomotor functions as an "armor." 2. The skin is an important erogenous zone. In addition to the stimuli of touch and temperature, pain, too, may be the source of erogenous cutaneous pleasures. 3. Being visible, the skin is a site for expressions of conflicts around exhibitionism. These conflicts concern not only fear and shame but also various narcissistic needs for reassurance. 4. Anxiety is physiologically a sympatheticotonic state, and sympatheticotonic reactions of vessels in the skin may represent anxiety. It is well recognized that the skin may react to normal emo-

tional situations by flushing, pallor or sweating, and the degree of this reaction depends on the individual. It is suggested that in the same manner that anxiety is a quantitative exaggeration of a mild tension of nervousness, so some forms of dermatitis are quantitative exaggerations of mild skin reactions; an additional symptom of an anxiety state occurring in a sensitive individual, whose anxiety is reflected through his skin rather than through his gastrointestinal tract or his cardiovascular system (1).

The number of cases of urticaria studied intensively from the psychological point of view are few. Menninger and Kemp (4) report a case of a 25-year-old boy who, with no prior allergic manifestation, had an urticaria of two years' duration. Investigation revealed that he was unable to face the test of being "a man" in a love affair and also was in fear of assuming responsibility in other spheres. Saul (5, 6), on the basis of two analyzed cases, presented a theory for the mechanism of emotional factors in urticaria and in allergies in general. He found that the essential emotion related to the symptom was a strong longing for love, basically the mother's. This infantile, dependent kind of longing was especially intensified with frustration or the threat of frustration, with resulting increase of allergic sensitivity and appearance of symptoms. The choice of particular sites must be determined by specific psychological and biological factors, most of which are as yet unknown. The analyzed cases suggested there was a relationship of the symptoms to repressed longing which did not achieve genital expression and which apparently resulted in a high degree of erotization of the skin as seen in strong exhibitionistic tendencies. "The longing is only one factor in the production of the symptoms. It operates in some cases independently of, and in other cases together with, specific allergic sensitivities. It is related to allergic sensitivity perhaps through increasing this sensitivity in the individual. It also operates apart from allergens by producing similar symptoms."

### CASE REPORTS

*Case A:* This case is being presented, although a complete history is lacking, because it shows sev-

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eral features of interest, the chief of which is an acutely precipitating situation and a quick recovery. The case was observed and treated in an Army General Hospital in France just prior to cessation of hostilities in the European Theater. The patient was a warrant officer, married, and about 27 years of age. He had been hospitalized primarily for hemorrhoids, and a hemorrhoidectomy had been done about one week prior to his being referred to the writer. For some reason the surgeon had told him that his condition warranted his being returned to the United States for limited duty. A day or two later, his expectancy having been built up, the Chief of Surgery indicated there was insufficient reason for this disposition and directed that he be returned to full duty. When this was told the patient, he immediately became upset and agitated and the following day broke out in a severe, generalized urticaria. The irritability of the skin increased his nervousness, and lack of sleep added to his miserableness. Repeated injections of adrenalin gave only momentary relief, barbiturate sedation was practically of no help, and only morphine was of some temporary value. After several days, during which the urticaria continued unabated, the Surgical and Medical Staffs concluded there was nothing further they could do for him and they asked for a psychiatric consultation. When the patient was seen, he was quite anxious and nervous, with a marked tremor of his hands, and desperate for relief. The interview indicated that the patient had previously had no allergic manifestations, nor was there a history of any in his family. He could in no way account for his present symptoms. The patient appeared to be a rather shy, easily embarrassed young man, which, on questioning, he affirmed. He had a rather florid complexion and stated that he blushed easily. He was a member of a rear echelon Engineering Unit and had never been in combat nor was there any likelihood of his going into combat in the future. However, his relationship with his Commanding Officer was very tenuous; the patient characterized him as an unreasonable, demanding and domineering man, with whom no one in his unit could get along. This information was subsequently confirmed by conversation with his Battalion Medical Officer, who was of the opinion that the Commanding Officer was quite neurotic. The patient stated he would rather do anything than return to his unit and to this Commanding Officer. He also indicated he had already set his mind on being sent home and he admitted that when he was told he couldn't go he felt terribly let-down and disappointed. The

patient was talked to for about an hour, during which time he received much sympathy and understanding, and an attempt was made to explain the unfortunate circumstances that led to the retraction of the decision to send him home. He was further shown how his acute attack had been precipitated by the accumulation of events which had first built up his hopes and then dashed them completely. He seemed to understand this quite well and, toward the end of the interview, cried a great deal. This was encouraged. It was then indicated that he would have to face the reality situation with his Commanding Officer and perhaps try to work out some method of effecting a transfer later. He quickly realized that he was trying to avoid an unpleasant situation and said that he would have to face it. Because of his miserable state, the patient was given some intravenous pentothal under which the obtained information was again reviewed with him, sympathy was given, and he was further encouraged that he would be able to work out his problem on a more rational level. Strong suggestion was given that his urticaria would improve and, finally, suggestion was made for him to sleep. The patient slept several hours and when he awoke felt much rested. His urticaria had greatly subsided, and although a few wheals were present, he said they did not bother him very much. Some amytal sedation was ordered for that evening, and the next day the patient was seen again in a short interview. He was less anxious, seemed quite himself again, and said he had had a good night's sleep. His urticaria now was practically all gone. From this point on he made a complete recovery and a few days later, about ten days post-operatively, he was discharged from the hospital. A report from his Battalion Surgeon several weeks later indicated there had been no recurrence of his urticaria, and he had again adjusted himself at his previous level.

*Case B:* The patient, a 26-year-old, unmarried male, sought admission to a Veterans Administration Hospital because of "hives" of about seven weeks' duration. The patient was brought up on a small Kansas farm, was a high school graduate, and prior to entering the Army had worked as a section hand on a railroad, a job which was obtained with the help of his father. His history indicated that he had adjusted fairly well socially prior to his entry into the Army, although basically he was a rather shy, retiring boy, easily embarrassed and given to blushing. His high school days were the happiest of his life because of playing on the basketball team, a distinction which he enjoyed

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very much. He talked about sexual matters very vaguely and reluctantly, but claimed some casual heterosexual affairs which began prior to his Army career. He made a very good adjustment in the Army in which he served four and a half years, with one year overseas in combat, as a sergeant. The patient was honorably discharged, and two days after coming home had his first attack of urticaria. He was treated by a local physician for this and for his "nerves," but with no improvement. He then sought admission to the hospital and there, for about ten days, he was treated on a different service with ephedrine and sedatives but with no abatement of symptoms. He then came to the attention of the writer. During the first interview it was learned that the patient had never had any previous allergic manifestations and his family was also free of them. He could in no way account for the sudden outbreak. A physical examination revealed a rather well-built but slender boy, with several erythematous areas and wheals of various size on his trunk and legs. Although he said the itching bothered him, he actually didn't seem too concerned about it. He had a fine tremor of his hands, sweaty palms and some cyanosis of his lower arms, indicating some vasomotor instability. He had a rather fast pulse of 112 when first seen but subsequently this was found to average about 72. All other physical and laboratory findings were within normal limits. Allergy testings were not done. When first questioned, he very defensively denied there was anything specific on his return home that had upset him. He said that he had been well received by every one and was happy to be back. He stated that his anxiety symptoms had started after combat in Europe had ceased, especially since, at that time, there was a possibility of his being sent to the Pacific Theater. He said he had looked forward to coming home but when he did get back "it wasn't all that it was cracked up to be." He was shy in talking about girls but then he stated rather casually that there was one girl in Pennsylvania whom he had met while stationed there in the Army, and whom he thought he might like to visit again. Then he added, "I guess I can't while I have the hives." With this clue as to a possible secondary gain for his hospitalization, he was questioned in detail, and there emerged the story of an Army love affair about which the patient had made some commitments, and had even told his parents that he intended to marry this girl. However, from some letters she had sent him, he did not know whether he wanted to go through with it, and was rather ashamed to tell this to his parents. It was further brought out that his

first urticarial symptoms, which occurred on his second day home, had started immediately following intercourse that evening with a local girl. Following a discussion of this material the patient was able to understand where part of his problems lay, and he was asked to make a decision. All medication was stopped. The following day the patient said he felt much better, had slept well and told the examiner that he had reached a decision. He would drop the Pennsylvania girl, probably take up with the local girl, and tell his parents that he wasn't going to Pennsylvania. He was encouraged and congratulated. For the next eleven days, during which his anxiety state was discussed, he continued to be seen, and although greatly improved he still displayed an occasional few wheals which didn't disturb him very much. Throughout these interviews the patient was very defensive, and it was felt he was still pre-occupied with some other problem, and that the urticaria was serving some further secondary gain for his remaining in the hospital. After some probing it finally emerged that he was reluctant to return to his old job on the railroad, which was hard work. He said he preferred looking for some lighter job. This problem was discussed and the patient was brought to the understanding that his hospitalization was actually serving as a retreat from responsibility and the reality situation. He was again told that he would have to reach some decision. The next day he said he was feeling much better and no urticaria was present. He had made up his mind to return to his old job, and be on the lookout for a change subsequently. His anxiety and tremor had considerably improved and three days later, during which time he was free of urticaria, he requested and received a discharge. A follow-up letter one month later stated, "I got out of the hospital on a Friday and went to work on Monday and have been working on the railroad ever since. I have never had any recurrence of the hives so I guess I got rid of them for good."

*Case C:* The patient was a 23-year-old, married male, discharged from the Army five months previously. He was admitted complaining of "hives," the present attack of about one year's duration having started while he was in the Army. The history disclosed that the patient was the second child and the oldest son of a family of twelve siblings. The family was a closely knit Catholic group, in which great store was placed upon achievement and ability. There was marked ambivalence and identification with a domineering and successful father, which resulted in rather obsessive thoughts of trying to emulate this father. There was also

great dependence on a rather rigid but outgoing mother. In his home environment, prior to entering the Army, the patient had made a fairly good adjustment, since he did have a certain amount of ability which permitted him to get excellent grades in school and to excel in athletics. Physical examination revealed a rather short but athletically built young man. In addition to scattered wheals and erythematous areas, the patient had a marked tremor of his hands, hyperactive deep reflexes and hyperhidrosis, indicating an anxiety state. Dermatographia was also present and marked. Physical and routine laboratory findings were normal. The patient brought with him an allergy test-sheet, done by a private physician four months previously, indicating sensitivity to various foods, the highest among which were eggs, beef, potatoes, and tomatoes. He had not been eating these foods for that four-month period but said he had noticed no relief of symptoms. Adrenalin and ephedrine were of little help. There was no allergic history preceding his first attack; but two of his sisters, he said, occasionally were prone to mild "skin rashes." The patient stated that his first attack of "hives" started twenty months previously while his unit was stationed in England. Questioning revealed that the patient was quite unhappy in the Army and had often dreamed of being home with his mother. On the day of the first attack he clearly remembered having felt very miserable and frustrated. It was a hot day and "everything didn't go right that morning." He was detailed to repair a tank engine, with two other men, but the others didn't show up, so he, in a very unpleasant mood, began alone. While working, his foot got caught in the engine but was easily extracted; however, a few minutes later he felt "very itchy," began to scratch and left the job to seek aid from his Medical Officer. He never did finish the job and his urticaria continued daily for about six months. In addition to his having felt unhappy and frustrated about the repair job, he had been having an affair with a rather passionate English girl at this time and felt some inadequacy in thinking that he was not giving her "as much as she wanted." There were also guilt feelings involved, inasmuch as he was corresponding with his fiancée at home. The urticaria continued through combat in France until he was hospitalized six months later for frostbitten feet. The urticaria then disappeared, for reasons unknown to him, and without treatment. Five months later, about one year prior to this admission, his second attack occurred. This followed a three-day pass to Brussels. Although at first he could think of no reason for any feelings of anxiety at the time, later interviews

led him to reveal an incident. He said he had picked up a girl in Brussels and while having intercourse with her his condom had broken. On the trip back to camp the soldiers related their various exploits and there was a lot of talk about venereal disease. He remembered having been quite disturbed, and it was on this trip that his second urticarial attack occurred. Following the initial interview, the patient was told to return to a regular diet and no further medications were prescribed. He reported subsequently that this return to a normal régime made no difference in his urticaria. Interviews disclosed a rather shy, quiet and passive-dependent person, who claimed he blushed very easily. He volunteered that he never could tolerate losing at sports or failure in undertakings. He was very defensive, and rather vague and embarrassed about sexual matters. He was uncertain as to why he had sought hospitalization just at this period. All he could say was that he wanted relief. However, it was learned that he had been married three months previously, and although he claimed that all was well, indirectly it was gathered that his wife was dissatisfied. One day he related a dream to the doctor in which his wife had died. Also, since discharge, his father had left him a \$5,000 business of delivering gasoline to neighboring farms. Due to competition and other matters the patient was quite unhappy about the business and expressed the fact that he would not be able to tolerate failure in this undertaking. He was, further, quite undecided about the business as a whole, because he was seriously considering accepting an offer that had been tendered him to try his hand at professional baseball. It was also learned that even at this late date, after repeated professional reassurances, the patient was still worried about venereal disease. Basically an immature, inadequate and dependent personality, the patient had been trying all his life to compensate for his inadequacies by attempting to achieve excellency in all undertakings. He could not tolerate frustrations and was highly narcissistic so that any threat to his body, such as possible venereal disease, was a blow to his feelings of security. The first attack appeared immediately following a frustrating experience, and the second when his security was threatened by venereal disease. Since his discharge from the Army, increasing responsibilities of marriage and business caused him to retreat to a hospital. The patient was given psychotherapy for about one month with some gain in insight and improvement of his anxiety and urticaria. Throughout, however, he displayed marked resistance to probing of his defenses and to therapy as a whole, and finally

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he signed out against medical advice, giving as an excuse that his business demanded his presence. A follow-up one month later stated he was doing fairly well and although he still had his "hives" they were not bothering him too much.

#### DISCUSSION

It will be seen that these cases had many factors in common. In each case the urticaria appeared suddenly in a patient who previously had shown no allergic manifestations, and in each the onset was precipitated by a particularly frustrating experience. Of special interest was the basic characters of these patients; they were all shy, somewhat withdrawn, easily embarrassed, and could be characterized as passive-dependent and relatively immature individuals. In cases B and C, which were studied in more detail, the patients were found to be very vague and defensive about personal and sexual matters, and each revealed a background marked by feelings of insecurity and inadequacy. In all three cases the period prior to each precipitating event was one of varying degrees of dissatisfaction, unhappiness and frustration, with a parallel build-up of anxiety. In each case, further, the urticarial symptoms represented an attempted retreat from an unpleasant reality situation which required the assumption of responsibilities of one kind or another.

It would appear from the above findings that these patients all represented immature dependent types of personalities in which frustration played an important role for appearance of symptoms. Why the skin was chosen as the site for the symptoms is still rather vague from the cases presented. As far as we were able to note, however, it did appear that in patients B and C exhibitionism did play a part in their personality make-ups, as indicated by their desire to excel in sports, etc., and obtain popular approval. This was especially marked in Case C. Patients B and C both had marked needs for reassurance. This tends to confirm Fenichel's formulation that conflicts around exhibitionism are concerned not only with fear and shame, but also bear a relationship to narcissistic needs for reassurance.

These three cases formed an interesting series as to length of illness and result of therapy. Case A was of five days' duration and urticarial symptoms disappeared with prompt and intense psychotherapy in about two interview hours. Case B was of seven weeks' duration and symptoms disappeared in about ten interview hours. Case C had symptoms for one year (with a six-month period of symptoms five months prior to this), and after about

twenty-five interview hours the patient still had symptoms, although somewhat alleviated, and due to marked resistance signed out of the hospital, with persistence of symptoms on follow-up one month later. One cannot presume, with only three cases, to correlate chronicity with prognosis, but there was the indication that the longer the symptoms were present the more difficult they were to remove.

Only in Case C, the most intractable case, had an allergic work-up been done by a previous physician. However, in spite of found sensitivity to various food-stuffs, it was the opinion of the writer that they played a very small part in the production of this man's symptoms. As indicated, it made little difference to the intensity of his symptoms whether he ate the "forbidden" foods or not. The fact that his symptoms of anxiety and urticaria were relieved by psychotherapy alone is further presumptive evidence for this opinion. It is not intended to imply that this is so for all cases of urticaria, for there is ample evidence that allergens of various types do play a role in the etiology of urticaria. But as various authors (3, 5, 6) have pointed out, the production of urticaria, and allergies in general, may be due to purely emotional factors or purely allergic factors, but between these two extremes both factors may play a part in varying proportions.

The great confusion in the treatment and management of many cases of urticaria seems to lie in the difficulty in differentiating the relative degrees of emotional and allergic factors in a specific case. From the practical point of view, however, this differentiation is very difficult, and, moreover, doesn't appear to be at all necessary. The patient must be viewed and treated as a whole, and in many, if not all, cases of urticaria the emotional and allergic factors play complimentary roles. The more important aspect from the viewpoint of everyday practice is the question—when are the emotional problems of the patient with urticaria so great that he requires the attention of a psychiatrist? To decide this point, the physician must first of all be aware that emotions do play a significant role in the symptom picture. This does not mean a diagnosis by exclusion. One should be able to make a positive evaluation of the emotional factors involved quite early, for it is felt that once the therapist is convinced of the role that the emotions are playing in the patient's illness, an attack of the problem along those lines will give the quickest and most economical results.

To aid in making this positive evaluation in cases



of urticaria, the following factors in the history and personality of the patient will be strongly indicative of the presence of emotional problems in his illness. 1. A history of an unhappy and rather anxiety-provoking existence for a period preceding the onset of symptoms. 2. Usually a sudden onset of symptoms, precipitated by a frustrating experience. 3. Frequently no previous allergic history or manifestations. 4. The presence of subjective and objective signs of anxiety. 5. The chronicity of symptoms. 6. A personality type who is shy, easily embarrassed, prone to blushing, relatively passive-dependent and immature, and with, perhaps, a tendency toward exhibitionism.

It would seem that when all or most of these factors are present, one may, with reasonable assurance, minimize the allergic aspects of the case and proceed along psychotherapeutic lines. Most cases of urticaria should not require the attention of a psychiatrist. The physician's evaluation of the severity of the underlying emotional problems, as well as his ability to cope with them, will determine when psychiatric intervention is necessary.

#### SUMMARY

Three cases of urticaria were presented and the emotional factors in each indicated and discussed. Some factors were outlined which may aid in the recognition and evaluation of the role the emo-

tions play in urticaria. These are: 1. A history of an unhappy and rather anxiety-provoking existence for a period preceding the onset of symptoms. 2. Usually a sudden onset of symptoms, precipitated by a frustrating experience. 3. Frequently no previous allergic history or manifestations. 4. The presence of subjective and objective signs of anxiety. 5. The chronicity of symptoms. 6. A personality type who is shy, easily embarrassed, prone to blushing, relatively passive-dependent and immature, and with, perhaps, a tendency toward exhibitionism.

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#### THE AMERICAN SOCIETY OF ELECTROENCEPHALOGRAPHY

The Eastern Association of Electroencephalographers, at a meeting in Boston in December, 1946, decided that there was need for a national organization, and therefore has formed the American Society of Electroencephalography. Its officers are: Dr. Herbert Jasper, President; Dr. Frederic A. Gibbs, Vice-President; Dr. Robert S. Schwab, Secretary; Dr. Mary A. B. Brazier, Treasurer.

The Society is now in the process of organizing along the lines of a national organization, and has drawn up its functions and purposes as follows:

To offer the services of the Council, as an advisory body, to go over manuscripts, dealing with electroencephalography and submitted for publication, and advise the journals as to the worthiness of the material;

To draw up standards of apparatus dealing with electroencephalography, and to advise manufacturers and others as to the minimum requirements;

To set up standards of examination for personnel, both technicians and clinical directors of laboratories in this field;

To inspect and pass on laboratories, certifying those qualified to do the work;

To collect representative reprints from workers and circulate them to places which have difficulty in obtaining them;

To maintain liaison with the international organizations abroad;

To hold an annual meeting at the time of the American Neurological meeting, for presentation of papers.

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## A CASE OF CO-EXISTENCE OF IDIOPATHIC EPILEPTIC AND PSYCHOGENIC CONVULSIONS \*

BLAISE PASQUARELLI, M.D.,\*\* AND LEOPOLD BELLAK, M. A., M.D.\*\*\*

The nature of convulsive epileptic disorders used to be one of the most lively matters of discussion. While much progress has been made, particularly with the aid of the electroencephalograph, there are many problems remaining, of a differential diagnostic nature, between hysterical and idiopathic epilepsy.

The concept of somatic compliance and the importance of psychosomatic interrelations in any case of seizures has been generally recognized. There are many undoubted cases of idiopathic epilepsy in which emotional factors can be clearly seen, and in which hysterical mechanisms often enter the picture. If we present another case of a co-existence of idiopathic epileptic and psychogenic convulsions, it is only because we believe that in this particular patient the two features are more clearly differentiated by history and symptomatology than in any other case we have seen or of which we have read.

### CASE REPORT

The patient is a 29-year-old colored female whose *present illness* dates back about two and one-half years. She describes her complaints as "nervous convulsions" in which her legs begin to tremble and then become rigid; the trembling with the subsequent rigidity spreads to the arms, and a position of opisthotonos is assumed; she then breathes heavily, mucous accumulates in her mouth; but she does not lose consciousness completely and usually remembers the convulsions. She has been *incapacitated by this type of seizure* for the past two and one-half years, has been unable to work, but has taken care of her children. The patient was admitted to St. Elizabeth's Hospital on March 21, 1946, following an increase of difficulties since January of the same year. In that month she had a series of severe convulsions of this nature, became very much disturbed and tried to jump out of a third story window. She was transferred to a psychiatric institution as it was difficult to provide for her in a general hospital because of assaultiveness and resistance to therapy.

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On admission to this hospital she cooperated fairly well, but soon had several spells as described above, which she called "nervous convulsions," and which were not of a typical epileptic nature. At admission she was correctly oriented, relevant and coherent in her speech. There were no delusions or hallucinations. She had partial insight inasmuch as she believed that her mind was "a little mixed up at times."

### Past History

The patient was born in Washington, D. C. Birth and early development were normal (to the best of our information), but following "influenza," when 4 or 5 years old, she started to have convulsions. (There are no details available as to the specific nature of this illness.) She began school at the age of 6, went through school to the tenth grade, and left when she was 16 years old. When she had "spells" during school her hands and head would jerk uncontrollably, but the convulsions really interfered with her work only when she started to have menstrual periods at the age of 12.

The patient clearly differentiates between the convulsions which she suffered since the age of 4 or 5 as *epileptic spells*, and what she calls *nervous convulsions* which started two and one-half years ago. In the first type she is unconscious and knows about them only what other people tell her; they occur usually when she is asleep in bed, just before or during her menstrual periods. Recently they have increased in frequency also. With these attacks she is fairly frequently incontinent, and falls out of bed. The second type, which she calls her "nervous convulsions," began at the time of the illness and death of her mother; she describes them as starting with a shaking in her right foot, which spreads over the body, while she knows what she is doing and knows what is going on around her.

The patient was described by relatives as always quiet, not drinking or smoking excessively, mostly enjoying sewing, the radio and reading the Bible. She always got along well with her classmates and developed no strong antagonisms, but was subject to temper tantrums. She was considered quite slow at school.

The patient never worked out, and lived at home with her parents until her marriage. She married

a laborer soon after she left school, had two children by him, but apparently domestic relations were not too good and she says he was a poor provider. At the present time, the two are separated.

*Family history* revealed that the patient was particularly strongly attached to her mother and had considerable hostility toward her only brother. The mother died about two and one-half years ago, prior to the onset of the present "nervous" convulsive disorder. There is no known convulsive or other neuropsychiatric disorder in the family.

*Physical examination* shows a dark-skinned, poorly nourished Negress, with a blood pressure elevation of 130/90. Examination otherwise was negative, including a neurological appraisal. All routine laboratory data were negative. Wassermann and Kahn reactions were negative.

### *Special Examinations*

The patient's mental age was 8½ years on a Kent Emergency Test. On a Stanford-Binet Test she had a basal age of 8 years, but accumulated enough credits for a mental age of 10 years. Judgment and abstract thinking were on an 8-year level, while the performance tests, memory and vocabulary contributed the higher results.

A Rorschach Test was given. The impression from it was as follows: *There is no question of the patient's present intellectual deficit but the Rorschach is more suggestive of organic changes than of congenital deficiency, although the patient may never have been more than dull normal.* While the picture is not typical, it suggests a progressive and quite advanced dementia (high W but several poor), no M despite 4 acceptable Fm; extremely poor form perception (40 per cent); some stereotypy (poor originals). Emotionally the patient shows inability to adjust to others (no FC), and marked instability and impulsiveness. Human values are ignored (no H or Hd), and her complete alienation from collective modes of reaction is indicated by low P and P failure. The results suggestive of an organic picture, rather than simple mental deficiency, are as follows: Low R (16); no M; very low F plus (40 per cent) P failure; color naming.

An *electroencephalogram* was done.<sup>1</sup> The electrodes were placed along symmetrical parasagittal lines over each cerebral hemisphere in the frontal, parietal and occipital regions.

<sup>1</sup> The authors are indebted to Lt. Comdr. Robert Cohn, U.S.N.R., for the administration and interpretation of the electroencephalogram.

An ill-defined 8.5 to 9 per second oscillation comprises the fundamental frequency. Prominent sequences of 3 to 4 per second, as well as isolated 200 millisecond waves, are observed in all leads. Random high frequency activity is increased in amount (general). The voltage is high (60 to 120 microvolts); its regulation is poor. The generalized slow activity is more prominent in monopolar derivations.

Hyperventilation accentuates the low frequency discharges, but gives rise to no dome and spike waves. *Impression: Generalized abnormal EEG. Epileptic disorder.*

### *Course and Treatment in Hospital*

During the observation period of eight days after admission, the patient had eight convulsions, which decreased radically when placed on one grain and a half of phenobarbital b.i.d. She was up and dressed daily, answered questions relevantly and coherently, tended to her own needs, and soon started to take interest in the ward activities. On April 22nd the patient had a very atypical attack and was found twisting and turning and rolling about the ward, and showed exaggerated athetoid and choreiform movements. This attack for about fifteen minutes in which the patient did not injure herself and did not lose consciousness. The patient appeared in a special (Wednesday) Diagnostic Conference, where the staff essentially agreed on the formulation and diagnosis of the problem as here presented.

Hypnotic interviews were undertaken with the patient. First the patient followed hypnotic suggestion, such as tingling of the hands, rigidity of the legs, deep breathing, etc. At first the patient resisted post-hypnotic suggestion. However, in the second session, the patient responded well to a post-hypnotically suggested state of euphoria, and in a few later interviews could be put to sleep at the count of ten, produced a dream on instruction and had an abortive convulsion of the atypical nature on suggestion, which could be stopped in the midst of the convulsion. In another interview it was suggested to her, under hypnosis, that she would have a dream about a real epileptic fit, not the hysterical type. The nurses reported the following morning that the patient had a typical convulsive seizure during the night; it lasted eight minutes, was accompanied by incontinence, and the patient could not recall it. On two other occasions the patient responded in like manner to this suggestion.

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the psychogenic factors was rather meager. She could only tell that at the time these nervous spells started she was very unhappy because her mother was fatally ill, and finally died, and that she was greatly depressed by these events.

The therapeutic attempts were definitely modest. Due to the patient's limited intellectual endowment only little insight could be given to her regarding the relation between her hysterical fits and the mother's illness and death. As long as the patient was hypnotized daily and a strong transference was maintained, she was free of any apparent convulsive seizures. She was euphoric according to suggestion, and got along very well. Several weeks after the hypnotic sessions had stopped the patient was still symptom-free; however, no great therapeutic claim can be made.

#### DISCUSSION

In the above, we believe we have presented a case in which two forms of convulsive disorders can be clearly differentiated. The first, dating back to the age of 4 or 5 and increasing in severity since menstruation, coinciding with menstruation and occurring mostly at night, with frequent incontinence and occasional injury, conform entirely to the picture of a classical epileptic disorder. The EEG is consistent with such a disorder. On the other hand, we deal with a second type of convulsion which is clearly differentiated by the patient herself as "nervous convulsions" which started only two and one-half years ago, are related to the emotional trauma of the mother's illness and death, and are atypical in their nature. These are the primary cause of the patient's hospitalization and the chief complaint for the past two and one-half years, even though the "genuine" convulsion also seems to have increased in frequency during that time.

Before hospitalization the patient received no sustained treatment, only putting herself under the

care of a physician intermittently, and receiving barbiturates only when the symptoms were most severe.

This intellectually primitive, or defective, person apparently expresses her psychogenic difficulties in an ontogenetically primitive fashion, imitating an already existing, organically determined disorder. At the same time her intensified psychological tension expressed itself in her organically well-founded disorder, as an increase in her genuine epileptic fits.

The close relationship of the two disorders and the psychogenic factors in both can be demonstrated not only by the fact that the hysterical convulsions could be produced and stopped with hypnosis, but also by the fact that an apparently genuine epileptic disorder could be precipitated by a suggestion to dream about it. One might speak with profit of the various levels of the disorder, namely the somatic and the psychogenic, with a close interrelation of both. The more psychogenically rooted disorder was actually the more troublesome. Except for the fact that the patient's intellectual endowment practically excludes deep psychotherapy, her problems would have a most favorable prognosis by manipulation on a psychological level.

#### SUMMARY

A case has been presented in which an apparently genuine idiopathic cerebral dysrhythmia with manifest convulsive disorders existed ever since the age of 4 or 5 (with an unclarified attack of "influenza" at that time). For the past two and one-half years this disorder existed concomitantly with convulsions of a different pattern which started with an emotional trauma and were apparently of an hysterical nature. Hysterical convulsions could be induced and stopped under hypnosis and genuine epileptic seizures produced at night on post-hypnotic orders. A close relationship between the two disorders was apparent.

#### RESIDENCY AVAILABLE IN NEUROPSYCHIATRY

The Southwestern Medical Foundation, in cooperation with the Veterans Administration, is offering a three-year residency in neuropsychiatry. Two years of this are divided into eight-month rotation periods between the Dallas area and the Veterans Administration Hospital at McKinney and Waco, Texas. The third year is elective, and investigative work is included. Approximately one-half of the required time covers psychosomatic medicine and mental hygiene work, including child guidance. The other half is devoted to in-patient psychiatry.

The Dean's Committee consists of Dr. Guy Witt, Dr. P. C. Talkington, and Dr. Don Morris as Secretary. Further information may be obtained by writing to the Secretary of the Dean's Subcommittee for Neuropsychiatry, Southwestern Medical College, 2211 Oak Lawn Avenue, Dallas 4, Texas.

PROGRAM FOR THE ANNUAL MEETING OF THE  
AMERICAN SOCIETY FOR RESEARCH IN  
PSYCHOSOMATIC PROBLEMS, INC.

HADDON HALL, ATLANTIC CITY

SATURDAY MORNING, MAY 3, 1947

REGISTRATION: 8:30 A. M.

9:30 A. M.

Psychosomatic Disorders of Muscles, Bones, and Joints.

Chairman: Dr. Carl Binger

The Role of Somatic Trigger Areas in the Mechanism of Certain Projection Phenomena of Hysteria.

Dr. Janet Travell and Dr. Nolton H. Bigelow

Psychodynamics of Parkinsonism.

Dr. Gotthard Booth

Preliminary Report on a Psychosomatic Study of Rheumatoid Arthritis.

Drs. Franz Alexander and Adelaide Johnson.

Psychosomatic Medicine and the Problem of Rheumatism.

Dr. James L. Halliday

Discussants: Dr. Franz Alexander

Dr. Roy R. Grinker

Dr. Jed H. Irvine

Dr. Henry Jordon

Dr. Leon J. Saul

Dr. A. R. Shands, Jr.

SATURDAY AFTERNOON, MAY 3, 1947

2:30 P. M.

Studies of Syncope, IV.

Biological Interpretation of Vasodepressor Syncope.

Dr. George L. Engel and Dr. John Romano

The Necessity for Reorientation in Medical Education from the Psychosomatic Point of View.

Chairman: Dr. O. Spurgeon English

The Medical Curriculum.

Dr. Charles D. Aring

Undergraduate Training.

Dr. Thomas A. C. Rennie

Discussants: Dr. Franz Alexander

Dr. William Dock

Dr. Eugene B. Ferris

Dr. James L. Halliday

Dr. M. Ralph Kaufman

Dr. John M. Murray

ANNUAL DINNER

SATURDAY EVENING, MAY 3, 1947

COCKTAILS WILL BE SERVED 7:00 P. M.

DINNER WILL BE SERVED 7:30 P. M.

Psychosomatic Medicine and Problems of Society.

Dr. James L. Halliday

Sound Motion Picture Presentation of a Case of Multiple Dissociation of the Personality.

Dr. John G. Lynn, IV, and Dr. Raymond Sobel

Novel Panoramas in Psychosomatic Medicine.

Dr. Bertram D. Lewin

SUNDAY MORNING, MAY 4, 1947

Business Meeting, for members only: 9:30 A. M. to 10:00 A. M.

10:00 A. M.

The Contribution of the Psychologist to Psychiatric and Psychosomatic Problems.

A Survey of Several Psychodiagnostic Methods. A Panel Discussion.

Chairman: Dr. Molly R. Harrower

Participants: Dr. Elisabeth Hellersberg

Dr. Max Hutt

Dr. Karen Machover

Dr. Bela Mittelman



## REVIEWS OF PERIODICAL LITERATURE

HOFF, HEBBEL E.: *Medical Progress: Physiology*, New England J. Med., 235:826, 1946.

Hebbel E. Hoff, M.D., of the Department of Physiology, McGill University, considers recognition of the essential unity of psychologic and physiologic processes and the appreciation of the importance of psychosomatic relations in disease as one of the chief applications of known basic principles stimulated by the recent war in the field of physiology. Recent studies of obesity in relation to cardiovascular disease are discussed, leading to the conclusion that obesity is mainly a problem of overeating, therefore psychologic. Obesity studies in relation to the hypothalamus are summarized. It is pointed out that "syndromes closely resembling those produced by anatomic lesions may appear as the result of psychologic stresses in the absence of an anatomic substrate," e.g., in cases of "hypoglycemic fatigue," such as those described by Alexander and Portis (*Psychosom. Med.*, 6:191, 1944). It is suggested that psychologic factors may precipitate or intensify attacks in patients with diabetes, bulimia, narcolepsy, anorexia nervosa, and sleep disturbances. Even in cases where the basic lesion is anatomic, as in the hypothalamus, this author feels that psychotherapy has an important role to play; on the other hand, medical therapy is recommended in many cases of psychogenic origin, such as the use of amphetamine (benzedrine) sulfate in the treatment of narcolepsy and obesity.

There is a discussion of gastrointestinal ulcers produced by lesions of the hypothalamus; cortical lesions also cause disturbances in the gastrointestinal tract, presumably by interruption of fibers passing to the hypothalamus, leading in turn to parasympathetic imbalance and excessive secretion and motility, and perhaps local anemia in the mucosa, setting up a vicious circle. Neurotic reactions may give rise to a similar pattern, e.g., 2 cases reported by van der Heide (*Psychosom. Med.*, 2:398, 1940). Vagotomy is discussed, and the work of Cushing, and then Storer and Dragstedt quoted in support of its efficacy. Atropine therapy has not been found as effective as might be anticipated, and it is suggested that the vagolytic properties of compounds related to quinine be further studied.

A list of fifty-eight references, on pertinent topics, is appended. (M. L. M.)

CATHCART, J. P. S.: *The Emotions in Gastro-Intestinal Disturbances*. *Canad. M. A. J.*, 55:465, 1946.

"No other function of the body plays a greater part in the emotional life of a person from infancy on than does the taking of food. . . . To the healthy and happy infant, feeding and loving are inseparable." Alexander divides his gastrointestinal cases of emotional origin into three groups: first, the largest group, patients with a range of symptoms from minor disturbances, such as epigastric distress, nausea, belching,

heartburn, etc., to actual peptic ulcer. The second group has diarrhea as the predominant symptom, and the third, chronic constipation.

Alexander tries to understand the patient's emotional attitude to his environment in terms of three tendencies:

1. to receive or to take
2. to retain
3. to give.

If the normal channels of emotional expression are blocked by inner conflicts, the gastrointestinal tract may be used instead, in the first group, in the conflict between deep-seated urges for dependency and the attempt to deny or reject them. Some identify this dependency urge as maternal attachment, which is denied by the patient or frustrated by the circumstances. The maternal dependency theory may provide some explanation for the prevalence of gastrointestinal disturbances in males.

In the second group the same conflict is present, but it is expressed through painful evacuation, expressing an effort to make restitution and also aggressive, and even sadistic, tendencies.

The third group represents a rejection of an obligation to give, and is often associated with tendencies of thrift and even stinginess.

The author has given special study to the first group and has only a limited experience with the other two. He is in agreement with Alexander's views to a large extent in relation to the first group on the basis of his own studies, and is therefore inclined to give them prominence, also, for the other groups.

Peptic ulcer and conditions commonly referred to as "gastric neurosis" or "functional dyspepsia" are put in the same group by the author (stemming from similar psychic mechanisms). Going even further, a close kinship is claimed between peptic ulcer and the psychoneurosis—anxiety type. This was seen statistically in hospital admissions in the Canadian Army, where an amazing parallelism was found in the hospitalization incidence of peptic ulcer and anxiety neurosis. These observations may throw more light on the parallelism:

1. Frequently both entities are present in the same patient.

2. A family pattern of anxiety and tension may express itself in different members, sometimes as anxiety neurosis, and sometimes as peptic ulcer or some other variant. Every case study should therefore include inquiry into all those possibilities and their occurrence in the family history.

3. The author's psychological studies showed a certain interchangeability in the life histories of his peptic ulcer and anxiety neurosis patients. He believes that no case of peptic ulcer is being adequately treated "without a study of the unhealthy emotional background."

4. Rubin and Bowman, in recent studies, found some indication for electroencephalographic and personality correlations between anxiety neurosis and peptic ulcer.

In ulcer cases there is a pronounced liability of the autonomic reflex in response to minor psychic stress. It is believed, therefore, that imposed cautions and restrictions tend to create their own somatic tensions, which might even outweigh the expected gains. The author and his associates often successfully removed restrictions, and put the patients on a full diet without medication, after first clearing up the conflict material. In the treatment of his cases, besides individual psychotherapy, apparently kept as superficial as possible, group therapy and reeducation also were used. It was found that psychotherapeutic methods of dealing with anxiety neurosis are equally effective in peptic ulcer. (O. P.)

HALSTED, JAMES A.: *Functional Gastrointestinal Disorders: Lessons Learned from Military Medicine*. New England J. Med., 235:747, 1946.

Functional gastrointestinal disorders, which constituted a large part of the disability from medical causes in the United States Army during the war, were found to be best treated, not by sedatives, diets, antispasmodics, rest, or hospitalization, but by dealing with personality disturbances directly and promptly. In patients with symptoms superficially resembling ulcer, 80 out of 100 studied were found to have psychoneurotic symptoms which rendered them unfit for military duty. Among the actual ulcer patients, only 6 per cent were rendered ineffective by psychoneurosis. The ulcer patient presented a restless, ambitious personality, with excessive self-reliance, and no tendency to make use of his symptoms to avoid duty. The patient with functional dyspepsia was submissive, passive and tended to use his symptoms in order to avoid unpleasant situations. Clinical symptoms of these two groups of patients are described. The above study was made on an overseas combat group, and results are contrasted both clinically and psychologically with patients seen in civilian practice. Four main explanations for functional gastrointestinal disorders are outlined: 1) primarily associated with organic disease, 2) excessive physiological strain, 3) low threshold for gastrointestinal symptoms, 4) emotional disturbance or neurosis. It is recommended that treatment be based upon whichever of the above causes is pertinent. Bed-rest, diet, and drugs in the treatment of neurosis, unless used merely as temporary adjuncts to psychotherapy, are considered detrimental because of secondary gain. Delving deeply into the background of the patient was found unwise, in the military setting, but simple psychotherapy on the realistic level of being told what the trouble was, and that the patient would have to get used to it, was found effective. The diagnosis itself, of the functional disorder, was found very helpful to the patient's adjustment. Psychotherapy was found most difficult in the group with psychogenic symptoms, which constituted four-fifths of the soldier

patients, and is estimated to be a large group in civilian practice also, as this type of patient resists seeing that his symptoms are based on emotional conflict, avoids psychiatric treatment but prefers physical treatment, and may have firmly fixed dependence upon medical rituals. (M. L. M.)

BREWSTER, HENRY H.: *The Use of Ether in the Narcosis of Patients with War Neuroses*. New England J. of Med., 235: (September 12) 1946.

Ether, instead of barbiturates, was used in treatment of 100 neuropsychiatric patients. It was administered by a trained anesthetist, who used the open-drop method, after preparation of the patient by eliminating food for a six-hour period and by a subcutaneous injection of 0.6 mg. of atropine sulfate. Patients quickly relived the traumatic emotional incidents and then lapsed into a hypnotic state, after which ether administration was stopped. In some patients a deeper anesthesia was found necessary to gain expression of the traumatic material. Ether should not be given if there is pulmonary infection, and oxygen tank and mask should be available. The author believes that because ether is absorbed and eliminated rapidly by the lungs, the level of anesthesia can be maintained more easily, and lowered more rapidly, than in the use of intravenous barbiturates. With the use of ether, the psychiatric interview is always held when the patient is conscious. This is, of course, different from the excitement seen in the primary stage of anesthesia observed in surgical patients. It is believed that auditory stimuli are greatly exaggerated in the preprimary stage by the action of ether and may explain "why ether seems to precipitate a greater emotional response than pentothal, which is a sedative as well as an anesthetic." The author believes that the advantages of ether (in the treatment of war neuroses) are the rapidity of induction of the desired state, and the quick recovery following the interview, with clear memory of what had transpired. It is contraindicated in severely agitated patients. (M. L. M.)

SUSSELMAN, SAMUEL, FELDMAN, FRED, AND BARRERA, S. EUGENE: *Intravenous Injection of Sodium Amytal as a Test for Latent Anxiety*. Arch. Neurol. & Psychiat., 56:567, 1946.

Sodium amytal in a dose of 0.1 gm. intravenously will frequently relieve pain and other symptoms due to tension in one to five minutes. This procedure can serve as a diagnostic test in 1) anxiety or tension states, and 2) instances where tensional pain is superimposed on pain of organic origin. The dose is too small to produce an analgesic effect, and relief is afforded by the relaxation produced. The injection should be given rapidly when the symptom is most severe. (L. P.)

DAY, G.: *Observations on the Psychology of the Tuberculous*. Lancet, 251:703, 1946.

The author conducted this study on patients of the well-to-do middle class who could afford to be treated

in private institutions. They had not been exposed to the stresses held to be responsible for the development of pulmonary tuberculosis, such as overcrowding, hard working conditions, malnutrition, and exposure. Two factors frequently encountered by the author aroused his interest in psychological aspects of the disease. In many cases he found an unhappy love affair in the recent history; and often the disease attacked young individuals at the height of physical development and health, when they would be expected to offer the highest resistance to the ubiquitous germ.

In nearly 50 per cent of his cases relevant factors were found, and in 60 per cent of these good reasons were seen why tuberculosis or a similar chronic incapacitation was *necessary* or would continue to be necessary because of their life pattern. "So in 30 per cent of the whole sanatorium population, I decided, the patient was sick in mind as well as body."

A case is presented of a young doctor, full of vitality and energy. When he fell ill his course was continuously stationary, despite all therapeutic measures. A connection was found between the onset of his illness and a conflict about religious principles and premarital sexual relations. After gaining insight and adjusting his life pattern, the patient became and stayed well. In this case the tuberculosis offered a welcome escape from the conflict.

The sanatorium was found to serve as an escape from reality for many women, with the opportunity for day-dreaming, and with its protected life in a surrounding where all are ready to help and serve the patient.

Several more cases are discussed to show the connection between the outbreak and course of the disease and the personality and life history of the patients. Although the analysis of the cases is kept superficial, interesting and relevant material is presented.

One case is thought especially stimulating. A woman with advanced disease was lost sight of for several years. When she finally was seen again, it was found that she had married and had had nine children in a happy and contented union. Phtisiologists advise against children for at least five years after arrest of the disease. The author raises the question of whether or not, in this case, the satisfaction of creative impulses counterbalanced the dangers of the pregnancies. Tuberculous women often do extremely well during pregnancy, and only the abrupt diaphragmatic descent at its termination seems to be the cause of massive basal spread, as is frequently encountered. The author feels that this could be combated relatively easily by prompt induction of pneumoperitoneum. He wonders whether, with such precautions, pregnancy, in selected cases, might not be a good therapeutic prescription. The bacilli of tuberculosis are ubiquitous, but few individuals succumb to or become severely ill by tuberculosis, although most of us become infected at some time during our lives. It is felt "that every individual reacts to a disease according to his personality; from which it must follow that the psychoneurotic, when

given a touch of tuberculosis, will exploit his disease process to suit his pattern of living—or of dying." It is essential to investigate and treat not only the local lesions and the toxic manifestations but also the concurrent psychological disease. (O. P.)

KELLY, N.: *Fibrositis and the Common Pains of Daily Practice*. M. J. Australia, 33:480, 1946.

The term "fibrositis" was suggested by William Gowers in 1904; and there has, since then, existed a controversy around this term. Many considered it a vague diagnosis without pathological foundation, often being used as crutch to conceal ignorance. Gower originally applied the term to typical pathological changes connected with the condition known as muscular rheumatism. Evidence is accumulating that there are conditions with pain where there seem to be changes in cells that cannot be discovered by histological methods.

Previous studies about fibrositis are reviewed and the relation of fibrositis to rheumatic disease in general is discussed. In regard to pathological findings, the author considers it "doubtful if even the most comprehensive pathological study would prove conclusive; it seems almost certain that, in a proportion of cases, structural changes would not be observed in the tender tissues."

Fibrositis undoubtedly may be often a psychosomatic disease. However, the pain always is real to the patient. Since the knowledge of etiological factors is still very vague, it is hard to differentiate psychosomatic from other forms. Therefore "all pains should be regarded as peripherally induced until proven otherwise." (O. P.)

WOODHEAD, BARBARA: *The Psychological Aspect of Allergic Skin Reactions in Childhood*. Arch. Dis. Childhood, 21:98, 1946.

Twenty-six cases of allergic skin disorders in children and young adults were investigated and treated from the psychological point of view. All of these had failed to improve on prolonged physical treatment alone. The patients were interviewed and studied alone in a play-room. The mother and sometimes the father were interviewed. The importance of the child's feeling secure with the psychiatrist was stressed. Little interpretation was given but the child was encouraged to work through his difficulties through the play technique. It was noted that the children did not scratch while they played, but when frustrated or upset in their play, they did.

In 16 cases there was a family history of allergic disorders which predisposed the child to allergic reactions. All but one child occupied a special position in the family: eldest, youngest or only child. The children were mostly of better than average intelligence, determined and aggressive, egotistical, sensitive, and insecure. The insecurity was attributed to the presence of psychological difficulties of the parents. There was a marked secondary reaction to the presence of the skin



affection. In general, the skin disorder seemed to serve as a defense against an unfavorable environment or mental shocks.

Thirteen case histories were detailed in which psychological treatment led to marked improvement in the skin disorder. In some cases both the child's and parents' emotional difficulties were resolved. In others, the patient was taught only to be more tolerant of parental difficulties. (W. W. H.)

GOTTLIEB, JACQUES S., ASHBY, M. COULSON, AND KNOTT, JOHN R.: *Primary Behavior Disorders and Psychopathic Personality*. Arch. Neurol. & Psychiat., 56: 381, 1946.

One hundred patients under 16 years of age, with primary behavior disorders, showed 56 per cent electrocortical abnormality. One hundred patients over 16, with psychopathic personality, showed 58 per cent electrocortical abnormalities. These figures are two to four times greater than in control groups of normal children and adults reported by various investigators. The occurrence of abnormal electroencephalograms in both groups was more frequent when there was a family history of epilepsy or maladjusted personality. Similarly, there were more abnormal EEGs in both groups when there was a personal history of convulsions, head injury with unconsciousness, or severe illness accompanied by coma or delirium. The younger the patient at the time of his severe illness, the greater the likelihood of an abnormal electroencephalogram. (W. W. H.)

DANDY, WALTER E.: *The Location of the Conscious Center in the Brain—The Corpus Striatum*. Bull. Johns Hopkins Hosp., 79: (July) 1946.

Dandy describes 10 cases who lost consciousness immediately and permanently after the following operative procedures: 1) resection of a frontal lobe (7 cases); 2) removal of tumors from the third ventricle (2 cases); and 3) ligation of both anterior cerebral arteries at the internal carotids (one case). In only 2 cases were the basal ganglia carefully studied. Two cases, without injury of either anterior cerebral artery, lost consciousness following removal of tumors from the third ventricle. It is stated that in the 7 cases of frontal lobectomies the basal ganglia was injured or its blood supply impaired. The center of consciousness, Dandy concludes, "is located somewhere in the basal ganglia or thalamus." (M. L. M.)

HINKLE, L. D., JR.: *Neuropsychiatric Problems on a Battleship*. U. S. Nav. M. Bull., 46:12, 1946.

Hinkle concludes that the neuropsychiatric disease seen aboard his ship was largely in the form of a psychosomatic anxiety syndrome, not of a severe nature. His ship never had to face the ordeal of suffering heavy casualties but the men did perform under many air attacks.

The vast majority of the neuropsychiatric problems appeared only in men who had psychiatric disturbances prior to induction. The neuropsychiatric disease was not precipitated by the strenuous nature of the duty to which the men had been subjected, but was provoked by the removal of a susceptible individual from his civilian environment and his introduction into a new environment to which he must adjust. (M. W. B.)

JEFFRIES, W. M.: *Stress on Personnel Flying the "Hump"*. Bull. U. S. Army M. Dept., 6:5, 1946.

In an interesting article Jeffries concludes that the development of psychological disorders in flying personnel is a result of individual tolerances for stress being exceeded. The tolerance to stress depends on such factors as heredity, home environment, training, etc. Prevention of psychological problems is more important, i.e., maintaining a state of high morale. This abstractor agrees that the key to the understanding of the war neuroses will be obtained through a more thorough knowledge of morale. The individual personality reaction is of secondary importance. (M. W. B.)

HAWLEY, P. R., MAJOR GEN.: *Neuropsychiatric Problems of the Veterans' Administration*. Mil. Surgeon, 99:6, 1946.

General Hawley discusses the problems in neuropsychiatry which confront the Department of Medicine and Surgery of the Veterans' Administration, and the plans being followed in an effort to solve these problems. In spite of certain adverse circumstances, the Veterans' Administration aims to provide veterans with the highest standard of modern psychiatric care and to offer the maximum in preventive psychiatry. It will also attempt to rehabilitate as many psychotics as possible, and make them self-supporting, even though a sheltered environment may need to be provided. The Veterans' Administration will also assist in the advancement of psychiatry through training of physicians, nurses, psychologists, social workers, and attendants. (M. W. B.)

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## BOOK REVIEWS

SPOCK, BENJAMIN: *The Common Sense Book of Baby and Child Care*. New York, Duell, Sloan and Pearce, 1945, 527 pp. \$3.00.

*The Common Sense Book of Baby and Child Care*, by Benjamin Spock, M.D., is aimed at the level of the layman and is specifically directed at those who take parenthood a bit too earnestly, or who at least regard their inexperience as a liability, if not as a distinct hazard. The book describes human growth and development from birth to puberty, with just about enough physiology to explain the outlines of everyday biologic phenomena, but with notable emphasis on the child's behavior and emotional life. It explains, in terms that anyone can understand without benefit of a college course in child psychology, why infants and children behave as they do.

The opening chapter takes the form of a letter to the mother and father, in which the parents get a good idea of the angle from which the book is written and of the sort of doctor who is writing to as well as for them. Then follows a valuable and reassuring section on Preparing for the Baby, from which even seasoned veterans will gather some useful hints. The next couple of hundred pages deal in considerable detail with an infant's life in the home, at a leisurely, conversational pace and with liberal space allotted to his daily care and to growth and development, both physical and behavioral. The chronological pattern on which the book starts is adhered to pretty faithfully up to about the end of the infant's first year, after which the helmsman lets his eye wander a bit from the peak and takes off in search of a puff of wind. After a section on The One-Year-Old there comes a sort of recapitulation and general disquisition on Elements in the Diet and on Foods and Meals, and a diverting interlude on Managing Young Children, before the author returns to the orderly sequence of The Two-Year-Old, Three to Six, and so on up to the age of 11 or so. The final third of the book deals with special problems of one kind or another—schools, puberty development, thin children, fat children, sloppy posture, illnesses and injuries, and so on.

It is in the description and interpretation of a child's behavior that Spock's book marks a radical departure from tradition and offers an outstanding contribution. "Baby books" are legion, and it would be unfair to

imply that they have hitherto been as like as peas. At the same time, one must confess that many, if not most of them, have tended to deal with their subject in a social vacuum, presenting the complicated business of child rearing in an oversimplified version in which primary emphasis is devoted to diet and digestion, weight gain, clothing, airing, exercise, and sleep, and only in the later chapters dealing with crying spells, temper tantrums, bed-wetting, nail-biting, and similar manifestations of tension as if they were superimposed complications, much in the same manner as such manuals deal with minor illnesses and accidents. Traditionally, in other words, tacit encouragement has been accorded the notion that an infant or child who is physically well has no problems and creates none—a naive assumption which collapses under even casual scrutiny. Spock's book, on the other hand, recognizes from the outset the indisputable fact that the birth of an infant introduces a variable, rather than a constant, into the family equation: adjustments are in order even before labor commences. In the child's search for independence and self-expression lie the seeds of a potential conflict of wills.

The author writes in a conversational style, taking the parent into his confidence in an easy-going manner which contrasts refreshingly with the pontifical attitude of many medical pundits when confronted by a lay audience. At the very outset he puts the mother at ease by such statements as, "You know more than you think you do"; "Don't take too seriously all that the neighbors say"; "Don't be afraid to trust your own common sense." The behavior of the young human animal is described simply and sympathetically, so that the essential consistency and reasonableness of the child's responses to a variety of environmental situations is made clear. In large part this is achieved through skillful choice of illustrative examples and anecdotes culled from a wide experience. The book has a genuine ring. It tells parents how they may expect their child to act at different age levels, and suggests a reasonable line of conduct for their own response. Confidence in the parent, confidence in the child, stands out on every page and carries with it the assurance that the two not merely will get along together tolerably but can and will find mutual profit and enjoyment in each other's company.

The arrangement of the book invites browsing, and indeed the author advises it. If one reads too doggedly there is risk of annoyance with repetition. Like many useful drugs the text is best taken in divided doses, either by sticking more or less closely to the parts which deal with a particular age level, or by using the excellent index to locate material pertinent to some special problem. The illustrations, line drawings by Dorothea Fox, add gaiety and flavor. One might well raise the question whether the book as a whole would be more effective if it were more compact—if it were trimmed down, for example, by condensation of the section on formulas and formula-making, which is well handled in pamphlets distributed by the Children's Bureau and by many State governments, or by the omission of much of the material on actual illnesses, which is scarcely full enough to help the parent who lives on a desert island yet superfluous when medical advice is accessible. However, the intelligent reader may skip with discretion.

In the opinion of the reviewer most mothers will enjoy the book and will profit by it. It will help many of them, and many doctors as well, to relax, to stop pushing children around, to avoid making moral mountains out of minor undulations in the terrain of normal behavior. To those fortunate enough to be endowed with an innate gift for understanding children the book will appeal because it presents questions of deportment with complete fairness to the child. Whether it can succeed in comforting the problem parent, the parent whose sole satisfaction resides in the sense of mastery, remains a moot point; but the trial is worth making.

RUSTIN McINTOSH.

*Modern Trends in Child Psychiatry.* Edited by Nolan D. C. Lewis and Bernard L. Pacella. New York, International Universities Press, 1945.

This assemblage of essays is a superior one and can be highly recommended to all those with an interest in child psychiatry. Practically without exception the authors have presented worthwhile material, conscientiously and succinctly, with the purpose of making available the most recent thought in the field. The book is divided roughly into three parts dealing with diagnosis, etiology and therapy.

Ribble's presentation of anxiety in infants is an excellent description of psychobiological needs and developments of this period. She stresses the need for love as the basic dynamic factor in helping the infant to overcome anxiety and facilitate his development. The next chapter, by David Levy, deals with the opposite—the effects not of maternal deprivation but of maternal overprotection. This is a thoroughly excellent scientific presentation.

Van Ophuijsen contributes a discussion of conduct disorders, followed by a chapter by Margaret Mahler on ego psychology as applied to conduct disorders. This contains an excellent brief description of ego psychology.

The psychosomatic approach to child disorders is contributed by Hilde Bruch and serves to illustrate symptoms rising directly from emotional disturbances, those which are secondary and results of physiological disfunction, such as peptic ulcer, and psychological disturbances arising from physical defects, for example, congenital disorders.

Caroline Zachry presents an illuminating discussion of adolescence and the potential role of the school in therapy. Klopfer discusses the value of the Rorschach test, and Pacella the electroencephalogram, pointing out that 25 to 30 per cent of children with behavior disorders show abnormalities in their electroencephalograms. He points out that "the particular challenge of the juvenile mixed group to the community . . . rests not . . . in the danger of return to sexual offenses in later years, but rather in the tendency for a continuance of the general delinquent traits into adulthood, in the form of serious crimes of burglary, assault, robbery, arson, racketeering, etc." Many of the general delinquent group he found were suffering from a "paranoid attitude towards society, from a fixed psychopathic personality, a severe neurosis, or general maladjustment, due to morbid instability, so that repeated court appearances, either in juvenile, or adult life, failed to alter their warped personality, outlook, attitude, or behavior."

Charles Bradley discusses psychoses in children. Lauretta Bender contributes an extensive clinical survey of organic brain conditions producing behavior disorders. Margaret Naumburg discusses art expression and concludes that "such art products as are derived through fantasy release may aid adjustment to daily life; and that creative response to outer events also tends to stimulate the growth of imaginative art." She concludes, "When both fantasy and reality images are thus projected by behavior problem children, into original art forms, it seems possible to develop them simultaneously as corroborative aspects of life experience."

The use of play analysis in research and therapy is presented by Louise Despert. Dr. Frederick Allen has a practical chapter on combined psychotherapy of children with parents.

Mahler writes on child analysis: "It is better to anticipate in such cases of family neurosis that the mother or the father sooner or later will feel such apprehension, and will become so defensive against further interference that they have to withdraw the child. The child might better be helped in such cases by other psychotherapeutic methods than to be exposed to a premature termination of a child-analysis. Therefore, we conclude that the indication for child-analysis is dependent upon a number of indispensable prerequisites, which still in relatively rare cases warrant it, and which, for the time being, unfortunately, will limit the number of cases that may benefit by it."

Slavson summarizes ten years of experience of group therapy with children, pointing out that there is no substitute for individual treatment, and that



group therapy can be not only ineffective but harmful, although it is of definite value in selected cases and when properly used.

Leona Hambrecht discusses psychiatric social case work with children and concludes that it becomes, in the main, psychiatric social work with parents.

Although the book contains only two or three chapters of direct psychosomatic interest, this series of essays are well worth reading by anyone who has psychological interests.

LEON J. SAUL.

BRILL, A. A.: *Lectures on Psychoanalytic Psychiatry*. New York, Alfred A. Knopf, 1946, 292 pp. \$3.00.

This delightfully written book consists of lectures given as part of a post-graduate course, mainly to psychiatrists in New York State hospitals. Dr. Brill's aim is to discuss the applications of psychoanalysis to the problems of state hospital psychiatry. While acknowledging the limitations of psychoanalysis, the author has found no other method that can approximate it. His purpose is to show "how it changed psychiatry from a narrow, limited study into a broad science which takes in the whole gamut of human psychic development. That psychiatry is now interpretative rather than descriptive is due primarily to Bleuler, and, in this country, to Adolf Meyer, August Hoch, George H. Kirby, and others."

Dr. Brill could of course have added his own name, and perhaps the most interesting aspect of the book stems from the part which he played in the history of the introduction of psychoanalysis into this country. He discusses in realistic fashion psychoanalytic concepts and his experiences in the application of them in clinical practice, and particularly in the psychoses.

The book also contains innumerable gentle and wise comments on life in general and psychiatrists in particular. The quality of the book stems from the fact that it is not a repetition of material that has been summarized often before, but that it develops the subject out of the personal experiences of the author, which themselves carry so much of the history of this phase of psychiatry. Indeed, with the development of psychoanalysis, some will feel that some of its concepts might now be presented a little differently—perhaps, as some might say, more dynamically. Certainly they could not be presented with more realism and humor or with more sense of history.

LEON J. SAUL.

DERBES, VINCENT J., AND ENGLEHARDT, HUGO T.: *Treatment of Bronchial Asthma*. Philadelphia, J. B. Lippincott, 1946, 466 pp. \$8.00.

This book purports in its title to concern the treatment of asthma but its scope is actually much wider than mere treatment. It deals with all aspects of asthma in succinct, readable and well integrated chapters by nineteen qualified contributors. The work includes sections on history, epidemiology and pathology

of asthma as well as on the anatomy and physiology of the respiratory tract.

The viewpoint from which the work is compiled is that of the allergist and the systematic diagnostic investigation of patients from the allergic angle is exhaustively covered. An extraordinary variety of substances met with in daily life are inculcated as threatening agents, potentially provocative of asthma. Non-particulate situational threats arising out of difficulties in interpersonal adjustments, however, are not neglected. They are dealt with in a lucid and thoughtful chapter by Thomas M. French, entitled "Psychogenic Factors in Bronchial Asthma." French discusses the type of personality which incorporates asthma as part of its pattern for dealing with a threatening environment. He emphasizes the very interesting association of asthma with crying but does not attempt to indicate the biological significance of the association.

French sets apart "emotional" from "allergic" factors in his discussion. Such a distinction implies that the pathophysiology and pathogenesis of allergic phenomena are understood and are not related to emotional states and life situations. It excludes the possibility that allergic sensitivity may in itself occur as a bodily reaction to threats including those which arise because of interpersonal conflicts. Actually the mechanisms involved in allergy are not well enough understood to warrant such an inference. Therefore the dual concept of "allergic factors" and "emotional factors" is not justified since it clarifies nothing and leads to fixed ideas in the minds of physicians in advance of the accumulation of the pertinent data.

The other contributors pay scant attention to psychosomatic factors while focusing on desensitizing procedures and local treatment of the end organ. Despite its somewhat unbalanced emphasis, "Treatment of Bronchial Asthma" provides an authoritative guide for practitioners and a valuable reference source for all physicians interested in asthma.

STEWART WOLF.

## BOOK NOTES

WALL, WILLEM VAN DE: *Music in Hospitals*. New York, Russell Sage Foundation, 1946, 86 pp. \$1.00.

This book is written primarily for musicians who wish to work in hospitals in some relation to therapy. It is concise in defining the role the musician can expect to play. There are concrete suggestions for the planning of musical programs and advice on how best to integrate the musical programs with the variety of other occupational, recreational and treatment services provided in a hospital.

The reviewer had anticipated that there might be some attempt to define the therapeutic usefulness of music. Since this is a very controversial and unsolved area, it is perhaps wiser that the book touches little upon it.

The introductory chapter on "The Dynamic Function of the Musical Arts" discusses in general terms the

fact that the effects of music are so intangible and unpredictable upon the individual that no concrete prescriptions can be written. This is a sound introduction and should bring down to earth the ambitions of the many musicians, professional and amateur, who feel that they have some highly personal role to play in the therapy of patients.

The general orientation as to what constitutes a hospital, what the multiple divisions of function are and how the variously trained individuals, including musicians, work as a team in the ultimate treatment of a patient is excellently presented. The recommendations as to how, and under what circumstances, music can be employed in the total therapeutic program are precise. There is need for vastly more experimentation into this area. This small book puts the initial steps into useful and practical focus.

For those physicians who are frequently asked by musicians where and how they can contribute their talents to a hospital therapy program, this book is of value. The physician can use this sound presentation to prepare the musician for what he can expect, how he must be prepared to function in a hospital setting, what is expected of him, and what his limitations are.

THOMAS A. C. RENNIE.

STIEGLITZ, EDWARD J.: *The Second Forty Years*. Philadelphia, J. B. Lippincott, 1946, 317 pp. \$2.95.

This is a book on the mental and physical problems of older people, written primarily for the more intelligent laity. The author is an outstanding student of geriatrics who writes with clarity, style and good sense.

The book covers the general biology of senescence—its implications, its burdens, its handicaps. There are somewhat misplaced chapters on the problems of heart disease, high blood pressure and cancer. The problems of nutrition are well discussed. There is a rather good chapter on the menopause, and prostatic hypertrophy, but somewhat inadequate discussion of sexual hygiene. The question of leisure and its cultivation is beautifully handled. The book closes with an excellent chapter called "Constructive Medicine," dealing with the prophylaxis of the problems of the aged and a very well pointed consideration of preparation for later years.

The book is written from what might be called a psychobiologic point of view. The psychology is one of uncommon sense—direct, simple and practical. Those physicians who have not given much thought to geriatrics will find this book well repays reading. It can be warmly recommended for reading by the intelligent patient approaching middle and later life.

MACK LIPKIN.

EMERSON, C. P., AND TAYLOR, J. E.: *Essentials of Medicine*. 15th edition. Philadelphia, J. B. Lippincott, 1946, 688 pp. \$3.50.

This book is a medical nursing text which has been in general use for many years. It is written by a physi-

cian and a nurse. It is an encyclopedia of disease with an introduction emphasizing the "patient as a person." The unique feature of the book is a "unit" system in which cross reference is made to the back of the book where nursing procedures pertinent to the diseases of the different systems of the body are outlined. The aims of the book are laudatory, but they are not achieved. For example: just before the nursing procedures for a disease are outlined, a brief statement of the pathology of the disease is mentioned. Unfortunately, the pathological description is not stated so that the reader obtains a clear idea of the reasons for the nursing procedures.

As a physician, the reviewer finds a great deal in this and other nursing text books to arouse sympathy for the nursing student. The nurse should not be a poorly informed physician. The ordinary medical text book should answer her questions as to the incubation period of measles and similar information unessential to the nursing profession. Brief descriptions of disease do not make interesting reading. A text book written from the viewpoint of a nurse and not that of a physician would be desirable.

GEORGE A. WOLF, JR.

SMILLIE, WILSON G.: *Preventive Medicine and Public Health*. New York, Macmillan, 1946, 607 pp. \$6.00.

This is an excellently organized, interesting and well written volume prepared for medical students who plan to practice clinical medicine rather than for men who anticipate going into public health. Its emphasis falls thus upon the task of the individual doctor in the prevention of disease rather than upon community function.

The book deals primarily with the physical diseases. It contains one chapter on mental hygiene and one on alcoholism. It reflects the increasing recognition that not the psychoses but the neuroses are the central problem. If it does not yet appreciate fully the vital role of personality functioning and of emotions in disease, this is no doubt because such appreciation has not yet seeped sufficiently into the medical literature.

However, it seems a definite omission that psychological factors in peptic ulcer and hypertension should be mentioned without some explicit statement as to their nature or some reference to the literature which is quoted for other topics, such, for example, as alcoholism, and which would give the student who is interested in these factors some bridge to the literature.

LEON J. SAUL.

BIBBY, CYRIL: *Sex Education*. New York, Emerson Books, 1946, 311 pp. \$2.50.

This is an American edition of a book published in Great Britain for parents, teachers and youth leaders. The topic of sex education is discussed in a very chatty way. The material presented is sound from the scientific standpoint and the approach is acceptable to mod-

ern medical psychology. Reference is made to many similar books printed in America and the author acknowledges that he draws heavily on these sources for his basic material. The book should be useful to teachers particularly since the author feels that they are in a strategic position to inform children about sexual matters and he has written for this group as his main audience.

MILTON J. E. SENN.

GARRISON, KARL C.: *The Psychology of Adolescence*. 3rd edition. New York, Prentice-Hall, 1946, 375 pp. \$4.65.

The author, who is an educator and teacher of psychology in a teachers' college, has written this book in a textbook style particularly for college students, with the hope that parents and teachers would also benefit from it. The material presented has been taken largely from the observations of teachers of psychology and education and from data obtained from psychological inventories and questionnaires submitted to pupils in high schools and colleges. The use of statistics to prove reliability of the data is conspicuous throughout the book in a manner characteristic of material written by psychologists. For the most part, the adolescent characteristics are ably, though incompletely, described. The section on hygiene of adolescence guides the teacher in methods of inculcating mental hygiene principles in a somewhat moralistic fashion and does not consider enough the psychodynamic factors. This book may serve the purpose for which the author intended it, namely in the teaching of college students and educators, but it is likely that it will be considered too superficial for the readers of *PSYCHOSOMATIC MEDICINE*.

MILTON J. E. SENN.

#### BOOKS RECEIVED

ALLEN, RAYMOND B.: *Medical Education and the Changing Order*. New York, Commonwealth Fund, 1946, 153 pp. \$1.50.

BEAUMONT, HENRY: *Psychology Applied to Personnel*. New York, Longmans, Green and Company, 1946, 167 pp. \$1.75.

CABOT, P. S. DE Q.: *Juvenile Delinquency, A Critical Annotated Bibliography*. New York, H. W. Wilson Company, 1946, 166 pp. \$3.75.

*The Encyclopaedia of Psychology*. Edited by Philip L. Harriman. New York, Philosophical Library, 1946, 897 pp. \$10.00.

GRUENBERG, BENJAMIN C.: *How Can We Teach About Sex?* New York, Public Affairs Committee, 1946, 31 pp. \$1.10.

KARDINER, A., AND SPIEGEL, H.: *War Stress and Neurotic Illness*. New York, Paul B. Hoeber, Inc., 1947, 443 pp. \$4.50.

LORAND, SANDOR: *Technique of Psychoanalytic Therapy*. New York, International Universities Press, 1946, 251 pp. \$3.50.

MOTTRAM, VERNON HENRY: *The Physical Basis of Personality*. New York, Penguin Books, 1946, 126 pp. \$3.35.

*Organic Reactions*. Volume III. Roger Adams, Editor-in-Chief. New York, John Wiley and Sons, 1946, 468 pp. \$5.00.

STRECKER, EDWARD M.: *Their Mothers' Sons*. Philadelphia, J. B. Lippincott Company, 1946, 220 pp. \$2.75.

SYMONDS, PERCIVAL MALLON: *The Dynamics of Human Adjustment*. New York, Appleton-Century, 1946, 680 pp. \$5.00.

THORNTON, NATHANIEL: *Problems in Abnormal Behavior*. Philadelphia, The Blakiston Company, 1946, 24 pp. \$2.00.

WILLIAMS, ROGER J.: *The Human Frontier*. New York, Harcourt, Brace and Company, 1946, 314 pp. \$3.00.

YAHRAES, HERBERT: *What Do You Know about Blindness?* New York, Public Affairs Committee, 1947, 32 pp. \$1.10 paper.

*Yearbook of Physical Anthropology*, 1945. Edited by Gabriel W. Lasker. New York, The Viking Fund, 1946, 214 pp.